BIOSTAR Inc. is a biotechnology company using advanced technologies to develop and produce high value-added biological products for animal and human health. Our continued growth and expansion require the addition of dynamic individuals experienced in corporate development, vaccine development and vaccine manufacturing.

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Global vision and international experience equip you to champion BIOSTAR’s growth from an emerging company to an integrated threshold business. Managing international commercialization of technology and products including negotiating strategic alliances, joint ventures, market agreements and technology licensing arrangements are primary accountabilities. Demonstrated ability to pick winning applications is essential. New product introduction, intellectual property management and demonstrated teamwork capabilities are also required.


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**Director, Vaccine Development** Position Code 94-D-012

This strategic and senior position provides both long term and operational direction to our world class sub-unit and live vectored vaccine development program. You will provide direction to multidisciplinary teams including molecular/cell biologists, immunologists and microbiologists and advise other functional areas including production/quality control and regulatory affairs in a team matrix environment. An outstanding scientific background, and a proven track record of bringing products from R & D through to registration is essential, as are excellent people and process management skills.

**Poultry Microbiologist/Veterinarian** Position Code 94-D-013

Development of in vivo models for colibacillosis, other bacterial and viral diseases of poultry and testing safety/efficacy of live gene deleted and vectored vaccines are primary accountabilities of this position. You will advise multidisciplinary teams involved in vaccine production, quality control and regulatory affairs. Qualifications include a veterinary degree (DVM or equivalent), research or clinical experience in microbiology, and familiarity with modern poultry husbandry practices, vaccine development/testing, regulatory issues for genetically-engineered vaccines, pathology or biostatistics.

**Manager, Bacterial Scale-Up and Production** Position Code 94-P-016

Process development, scale up, validation and commercial manufacturing of genetically engineered and conventional vaccines are primary accountabilities. You will also prepare regulatory dossiers and advise multidisciplinary product development teams. A MSc or PhD in microbiology and experience in commercial vaccine production including large-scale fermentation involving microbial expression systems, and the development of protein purification systems are required.

**Quality Control Supervisor** Position Code 94-P-017

Development, validation and application of quality control tests for in-process, final product and stability testing of conventional and novel genetically engineered bacterial and viral vaccines under development and in production are the main accountabilities of this position. A BSc or MSc in microbiology, biochemistry or related discipline and research or quality control experience in an industrial setting are required. Analytical protein, microbiological and molecular techniques involving polyclonal/monoclonal antibodies, ELISAs, gel electrophoresis and computer fluency are also required.

**Research Scientists** Position Code 94-D-01

Post-doctoral and research scientist positions are available and require a PhD in molecular/cell biology, or immunology. An understanding of infectious disease, pathogenic mechanisms and vaccine development/testing would be advantageous.

Please fax or mail your resume/curriculum vitae and identifying position code to:

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Careers in Pharmaceuticals & Biotechnology:

East Coast

by John Timpane

Glenn Prestwich, director of the Center for Biotechnology at SUNY Stony Brook, shakes hands with Arnold Oronsky, vice president for pharmaceutical discovery, Lederle Laboratories.
Breaking boundaries is what modern science is about." So says Glenn D. Prestwich, director of the Center for Biotechnology at the State University of New York at Stony Brook. Prestwich has spent the past hour describing how the Center has broken down many boundaries once held dear by life scientists: those between industry and academia, biotechnology and traditional pharmaceuticals, molecular biology and synthetic chemistry. Networking is the key.

Nowhere is the life-science employment market more thickly networked than on the east coast. Where the West is dominated by biotechnology, the East has a much more diverse range of settings for science jobs. From Harvard to Hopkins to Duke, most of the nation's oldest research institutions are here, from Johnson & Johnson to Prizer to SmithKline Beecham, almost all of the major so-called traditional pharmaceutical companies are headquartered east of the Mississippi and from Genzyme to CytoGen to Macronex, biotechnology clusters in vital hubs around the major cities from Miami to Cambridge.

New kinds of integration are springing up. University science departments are doing contract work. Big pharmaceutical firms are shelling down, merging, sharing ideas and methods with partners big and small, creating generic and biotech units, refreshing their academic contacts. The company of the future is going to be, in business parlance, "increasingly codependent" with companies of like interests. No wonder old boundaries no longer make much sense.

Networking is therefore the key to getting a job in eastern biotechnology and pharmaceuticals. Job-seekers have to know what's out there and figure out what's coming. That calls for a new kind of scientist: exceptionally versatile, as good at communication and teamwork as at science, endowed with 360-degree peripheral vision. To quote James A. Hayward, president and CEO of Collaborative Laboratories in East Setauket, NY, "Future science careers will be a diverse menu of tasks, not a single course."

Our look at science careers in the East includes not only biotech--such as Genetics Institute of Andover, Mass.--but also traditional pharmaceuticals, such as Sandoz of East Hanover, N.J., or Glaxo Research Institute at Research Triangle Park in North Carolina. In between, we visit two new hybrids: New York's Center for Biotechnology, a nexus where state, business, and academic science meet to create new jobs; and Collaborative Laboratories, one of the new breed of contract R&D outfits. Their stories, and those of all their employees, suggest how job-seekers in the East can connect and stay connected.

"Breaking boundaries is what modern science is about"
Glenn D. Prestwich,
SUNY Center for Biotechnology

LIFE AFTER THE THREE R'S
Rightsizing, restructuring, reorganization: three words no one likes to hear. All three are rampant through many pharmaceutical companies in 1993. A slow economy contributed, as did the healthcare debate, to highly publicized showdowns between major companies and the FDA, and a long-overdue industry shakeout.

According to Pharmaceutical Technology, total job reductions last year exceeded 30,000. Despite all the changes, opportunities for good scientists are still numerous and far more diverse than ever before. Consider that in 1993, about 40 pharmaceutical companies did 90 percent of all hiring of pharmaceutical scientists. Since then, more than 3,400 other companies have been created: the "boutiques" specializing in a single technology or product; novel drug delivery companies; niche-driven companies; generic drug manufacturers; contract R&D outfits, cowboy entrepreneurs who sell their ideas, talents and energies to the highest bidder; and biotech, which may include any of the above.

Instead of the giant that does it all from idea to shelf, the future biopharmaceutical company may be a central brain trust of scientists who bombard their bright ideas to R&D contractors. The total number of jobs at these smaller companies may nearly equal the losses of 1993. For the most part, the East was the scene of this redistribution.

While many larger drug companies have cut or frozen total hiring, cuts have tended to be relatively heavier in sales forces and management than in R&D; several companies, including Schering-Plough, Roche, and Lilly, have pledged to support R&D hiring and maintain or increase their R&D budgets.

Opportunities remain, then, but the kinds of opportunity are changing. Future settings for science employment may involve smaller, leaner organizations, more teamwork, more entrepreneurship.

The employment upshot is twofold. Pharmaceutical companies will always need good synthetic organic chemists, pharmacologists, and chemical engineers. And life scientists going into niches of enduring and future need--virology, immunology, gerontological medicine, cardiology, infectious diseases, neurological disorders, and cancer--should enjoy good careers.

Also needed are more chemical and biochemical engineers; experts in process development; scientists with legal and business backgrounds; and the truly interdisciplinary scientist not afraid of trading ideas, pounding the pavement, and creating the business. More than the sun rises in the East.

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Mid-Atlantic Region 114
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Source: Ernst & Young annual report

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Figures in thousands

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THE QUEST FOR EXCELLENCE AT GENETICS INSTITUTE
An informal environment plus intense work equals creativity

Genetics Institute of Cambridge and Andover, Mass., one of the top ten biotechnology firms in the United States, has grown by seeking ways to enhance the company and encourage the good work. In January 1992, American Home Products made an equity investment in GI of $670 million. GI’s first approved recombinant product, Recombine®, a factor VIII for treating hemophilia A, was the fruit of collaboration and partnership: a 10-year, $100-million collaboration with the Hyland Division of Baxter Healthcare Corp. Development, licensing agreements with Wyeth-Ayerst, Boehringer Mannheim, Chugai, Sandoz, Schering-Plough, and other companies are part of GI’s bid to go worldwide. A constant stream of internal seminars and external collaborations connects GI with the academic community in and around Cambridge.

Internal culture is similarly dynamic. Matt Mirisola, human relations manager for employment, says, “We have an organization here that fosters a creative environment. The culture is open-minded and tolerant. Working hours are a good example. You can see people early in the morning here, late at night, on weekends, almost anytime.”

One must be flexible about both working hours and research direction. “When I first came here,” Moutsatsos says, “I was doing a lot of protein biochemistry, so I used protein purification methods based on chromatography, HPLC, that sort of thing. Then I did a lot of immunology, raising antibodies for specific proteins, using electrophoresis and other immunochemical techniques. Now I am doing a lot of cell biology, tissue culture process from bench to pilot scale. I am now involved with what he calls “some very risky basic research” on the controversial topic of cardiac muscle regeneration. “What’s exciting is that we have to establish the basic scientific facts about cardiac muscle before we can even proceed.”

“People here love to work,” says Mirisola. “To support that, we’ve made a one-of-a-kind effort to break down barriers, even in the hierarchical power structure. We try to have people communicate in a more informal way. If you disagree with the VPs, you can tell them so—and sometimes people do. But I’d rather have that than a tight-lipped atmosphere.”

One person who definitely loves her work is Catherine Briasco, principal engineer and laboratory head, department of purification process development. “I chose biochemical engineering over chemical engineering because I wanted the interaction I knew I would come along with the job,” she says. “Do not come into this industry unless you love working with people.”

For the past year, Briasco has been helping transfer a certain manufacturing process from bench to pilot scale. She is involved in nearly every phase of development, which is truly a team endeavor. “We have the fermentation scientists, chemical engineers, and biochemists who perform crude extracts of cells; the microbiologists and chemical engineers in the microbial phase; chemists and protein biochemists in purification; and the analytical protein biochemists and analytical scientists in the analysis phase. We also have day-to-day contact with project management, and routine contact with scientists in preclinical, and with the MDs and clinical research associates in clinical affairs.” She laughs: “Peripheral vision is part of my job. I was always that interdisciplinary person who liked chemistry, biology, and engineering.”

What does GI look for in its new hires? “Science is, of course, paramount,” Mirisola says. “Beyond that, we look for a good work ethic, good communication skills, willingness to share and be a part of a team. We have a continuing need for molecular biologists and biochemists, and beyond that it’s very niche-driven. Right now, I’m looking for a PhD/DVM to do animal modeling with bone and cartilage work. We just finished staffing a medicinal chemistry lab. Other needs include biostatisticians and people in clinical and regulatory affairs. We look for high-caliber talent, and that’s always hard to find.”

Briacco says job-seekers to “perfect your communication skills,” and Moutsatsos recommends “getting as much lab experience as you can.” Both agree on the need for foresight. “You have to start thinking about your goals early in the process,” Briacco says. “I saw early that I had a choice to make, and much of what I’ve done since reflects that choice. One I’m glad I made.”

ORCHESTRATING THE NETWORK: THE SUNY CENTER FOR BIOTECHNOLOGY
Stony Brook’s Glenn Prestwich conducts beautiful scientific friendships among business, academe, and the state

Glenn Prestwich, director of the Center for Biotechnology at SUNY Stony Brook, gestures to an impressive diagram of programs and says, “Basically, a lot of this is just ramping up opportunity.” Established in 1988 as one of 10 New York State Centers for Advanced Technology, the Center’s directive is to forge lasting connections between academic science and industry.

Accordingly, Stony Brook has thrown itself open to New York businesses. Companies can avail themselves of a living skin bank, a DNA synthesis facility, a transgenic mouse facility, and centers specializing in cell culture and hybridomas, flow cytometry, mass spectrometry, and oligonucleotide synthesis. The Center invests more than $500,000 a year in early-stage research among various New York research institutions, assists small biotechs in the early stages of product research, and, through its Biotechnology Incubator Program, provides laboratory space, equipment, and other services to emerging firms. And a technology transfer program seeks, in Prestwich’s words, “to get the good ideas to commercialization as fast as we can.” The Center also looks to create beautiful friendships, aiding strategic alliances between businesses and research institutions. The Center’s newsletter is entitled, appropriately enough, Biotechnology Network.

Among the more than 120 small science companies in New York, Prestwich sees one thing: “Growth, rapid growth. Biotech companies in the state are hiring qualified people as fast as they graduate. BS, MS, and PhD. The demand is at two levels. The first is total brain-power science, speculative basic research—such as what’s now going on with signal transduction—with commercial applications light-years down the road somewhere.” The second level comprises applications such as diagnostics, unregulated uses, or manufacturing, for which there are fewer FDA regulations and a shorter production time. “You can create many jobs if every single company has a 12-year timeline and $200 million investment to product. Biomanufacturing is a chance to generate high-paying, high-quality jobs in a region where you need new industries to be environmentally friendly.” The Center is
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Drug Metabolism

Biotransformation-Mass Spectrometry

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Currently, we are seeking highly motivated PhD-level research and/or senior research scientists and BS/MS-level scientists in the Drug Metabolism Department.

The successful candidates will be involved in discovery research and development research projects, working in collaboration with other scientists on discovery and development projects within the Department, as well as project teams. Responsibilities will include designing and executing experiments involving state-of-the-art mass spectrometry, radiochemistry, HPLC and NMR where the goal is to isolate and structurally identify metabolites in biological fluids and tissues and to develop a comprehensive understanding of the pathways of biotransformation.

The PhD-level positions require a doctorate in mass spectrometry, medicinal or analytical chemistry, drug metabolism or related science. Prior postdoctoral and/or industry experience in mass spectrometry, including troubleshooting with atmospheric pressure mass spectrometers; HPLC; solid experience with computers and database management software; experience working with *in vivo* preclinical studies and biological fluids/tissues; and strong oral and written communication skills are highly desirable.

The BS/MS-level positions require a degree in analytical chemistry, chemistry, biochemistry, or related science. For these positions, previous experience in mass spectrometry; HPLC; database-management software; *in vivo* preclinical studies; and strong oral and written communication skills are preferred.

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**The Cancer Therapy Department** has a challenging opportunity in the clinical development of novel drugs to treat human malignancies.

**Assistant/Associate Director** *(Pos. #65446-19)*

Candidates must have a M.D. with 5–8 years post-M.D. experience in clinical medicine and/or medical research. Board eligibility or certification in Oncology.

Other factors to be considered in selection include experience with clinical research methodology/activities (e.g., study design, site monitoring), experience with development of biologics, and computer experience. Ability to fulfill overnight travel responsibilities, including international travel.

**The Department of Clinical Neurosciences** has two challenging opportunities in the clinical development of novel drugs for the treatment of diseases of the central nervous system.

**Senior Clinical Research Scientist III** *(Pos. #65397-19, #65398-19)*

Candidates must have a Ph.D. in a biological, physical, health or other related science PLUS 5–7 years clinical/research experience (e.g., employment in a patient care setting, such as nursing or pharmacy, clinical laboratory experience, experience as a clinical research monitor/Coordinator). OR Master’s degree in a biological, physical, health, or related experience (or Pharm.D.) PLUS 8–10 years clinical/research experience (as described above).

Other factors to be considered in selection include clinical neurosciences/neurology experience, pharmaceutical industry experience, experience with clinical research methodology/activities (e.g., study design, site monitoring) and computer experience. Ability to fulfill overnight travel responsibilities, including international travel.

**The Department of Infectious Diseases & Immunology** has the following challenging opportunity in the clinical development of anti-viral drugs for the treatment of serious infectious diseases.

**Clinical Research Scientist III** *(Pos. #65447-19)*

Candidates must have a Master’s degree in a biological, physical, health, or other related science (or Pharm.D.) PLUS 4–6 years clinical/research experience (e.g., employment in a patient care setting, such as nursing or pharmacy, clinical laboratory experience, experience as a clinical research monitor/Coordinator). OR Ph.D. in a biological, physical, health or other related science PLUS 1–3 years clinical/research experience (as described above). Scientific writing assessment.

Other factors to be considered include experience with clinical research methodology/activities (e.g., study design, site monitoring). Ability to fulfill overnight travel responsibilities, including international travel. Computer experience.

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FIGHTING THE FIRE DU JOUR AT COLLABORATIVE LABORATORIES
James Hayward and company look for hot needs and then design creative ways to meet them

Collaborative Laboratories in East Setauket, NY, was formed out of several companies with diverse but connectible interests. Its name reflects an origin based on teamwork and a brainstorming style of business and science. Whereas most small science companies are unifocal cottage industries, Collaborative paints from a broader palette. "We're not really interested in the traditional line of commercialization," says James A. Hayward, president and CEO. "Instead, we look to fast-track, nonregulated applications—for example, taking a drug delivery system and making an aquacultural diet out of it. That means we work with a diverse range of industries—the pharmaceutical, the cosmetic, the chemical, the agricultural." Employing liposome technology, Collaborative explores everything from ink and inks to cosmetics to cosmetic and food applications such as flavor and fragrance stabilization, and emulsions for ketchup and mayonnaise.

Collaborative, as one of a new species of contract R&D firms, is looking for a novel kind of scientist, quick to the marketplace, with the knack for speaking across disciplinary lines. Biophysicists and biochemists work alongside molecular biologists—everyone helps make decisions and create opportunities together. "We have to be able to fight the fire du jour around here," Hayward says. "For us, it's an awful lot of fun."

The first employee at Collaborative was Mindy Goldstein, director of development services. After a doctoral thesis on repair of genetic damage induced by ultraviolet irradiation, she did a postdoc at Stony Brook, switching to a study of modulation of steroids in fungal membranes in response to subletal doses of nystatin. At the same time, she literally taught herself molecular biology. She has picked up many useful skills: SDS-PAGE gels, work with nucleases and restriction enzymes, GC and HPLC, enzyme assays, and experience in mutagenesis and cyto genetics.

"At Collaborative, I do a lot of things," Goldstein says. "I've taken part in almost every aspect, from production to raw materials development to formulation. I liaise with clients one-on-one. I also do some sales: I'm out at the booth at trade shows. In a small company like this, you need people who can wear many different hats, able to turn on a dime from one project to another. I love the constant shuffle. You never get bored, that's for sure. My days are pretty long—but then, there is no nine-to-five job in the sciences."

Goldstein's longtime associate Joe Ceccoli, director of technical services, received his BS in biotechnology at the Rochester University Institute of Technology. He describes hanging around the labs at Rochester: "I was in the labs 20 hours a day; they had to chase me out. Thanks to the good program I was in, I made my own plasmids and hybridomas even before I went looking for a job.

"There's no expert of everything," he says. "You have to be willing and able to adapt to the next challenge. I help in lab development, scale-up, piloting, day-to-day plant operations. You can be running a power line across the ceiling in one moment and be calculating the release profile kinetics of a liposome the next."

Patricia M. Halloran, coordinator of biotech resources, says, "I've taken a somewhat forked educational path." She earned a BS in general science (emphasis in chemistry) with a minor in business administration at Villanova, an MS in pharmacology at Mt. Sinai School of Medicine, and an MBA in health care management from Boston University (while working in industry).

Halloran gets to do "both the lab work and the business end of things." Her group applies cell biology in personal care products, requiring her to work closely with several different kinds of scientists: "I'll do some cell work, our biochemists will do the characterization, and our chemists will do the analysis." She is constantly involved in tissue culture, cell maintenance, ELISA, radioassays, and the use of human inflammatory cells as mediators of in vitro irritancy. Her group also works closely with the department of pathology at SUNY Stony Brook, who furnish skin models for her group's tests.

"It's all very diverse, and very entrepreneurial," she says. "That's life at a small company."

David Watkins, group leader, biochemistry, decided to leave academia when "grant writing, a long, hard slog for relatively little, began to get pretty old." His group undertakes contract R&D using liposomes to encapsulate products for oral or inhalational delivery. "All of the time we're doing this real science, we constantly have to keep an idea's commercial potential in mind. All of us are entranced with thinking up ways to turn what we're doing into profitable ventures."

Watkins maintains his academic ties as adjunct assistant professor of pharmacology at Stony Brook. As for the other sciences, "Now I talk to chemists and formulators and pharmacists about a huge number of things. It never would have occurred to me a year ago that you could enclose a drug in some sugars, still less that I might have been interested in that. I can now read papers and understand a little bit of chemistry. I knew nothing about business before I came here. Now I'm writing a mass-mailing brochure, which I never would have dreamed of doing. Everybody does everything here. Sometimes it gets a bit chaotic, but I like it that way."
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At the Glaxo Research Institute, "matrix management" is not so much the nickname for a new administrative fad as a way of life necessitated by the new science network. At Glaxo, academia meets industry, biotech meets pharmaceuticals, and the sciences meet one another—daily.

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Located in North Carolina's Research Triangle, Glaxo is about equidistant from Duke University, the University of North Carolina, and North Carolina State University. Sources of both combining collaboration and future employees. Sandra Michaux, manager of human resources, says, "That connection is well established and benefits both the company and the institutions." Other universities, such as University of Tennessee at Oak Ridge, University of Indiana, Rockefeller University, and Cal Tech, add to the network.

Glaxo is one of several pharmaceutical giants that have begun to bring biotechnology into their research efforts. Wen-ji Chen, a research investigator in the division of molecular sciences whose work would fit well at hundreds of biotech labs, says, "We can join the disciplines of biotechnology and classical pharmacology in a way that a smaller biotech firm really can't." Michaux adds, "We have the tradition of pharmacology here—and we can combine that with all the fresh ideas and new techniques brought in by our new recruits."

For the job-seeker, this means that crossover skills are in demand. Michaux says Glaxo values "specifics balanced with diversity—the more enhanced a candidate's experience has been, the more helpful." Paul Feldman, senior research investigator, medicinal chemistry, puts it another way: "Be focused, but not narrow. It's not quite the way it is at small biotech firms, where crossover is everything. We hire people with a pronounced, focused expertise in one area—but we also look for that open mind, that willingness to collaborate and learn other sciences."

Matrix management means that collaborative teams of scientists are set up across disciplinary boundaries to help develop new therapeutic agents. Feldman's work in organic synthesis was involved, for example, in the effort that led to the discovery of remifentanil, an ultra-short-acting opioid analgesic. "It's true team science," he says. "In medicinal chemistry, we work with cell biologists, protein chemists, enzymologists, molecular biologists, and pharmacologists—and that's not everybody." This philosophy calls for a scientist who can work as part of a team, write and speak effectively, collaborate across disciplines, and stay flexible about career and research directions.

From the hiring perspective, that means looking for evidence that a given candidate has a record of successful team participation. "We look for team-based experience in the past," Michaux says. "That means concrete examples of what the candidate has done either as a leader or as a member of a team. We look at what worked well for them in the past and what didn't."

Chen has sculpted her career in light of the market realities in her field, changing along with her tightly interconnected community. She came to the United States after receiving her bachelor's degree in Taiwan. "My BS was in medical technology, as part of which I took a course in biochemistry. I liked it a lot, which made me think about my future direction." She attended Purdue University, where she received her MS in biochemistry. "I was working primarily with yeast, which at the time was a very hot field, but I could see that the field was changing and that my future interest would focus elsewhere." Even during her PhD work in biotechnology at the University of Texas Southwestern Medical School, she was looking for a new direction. "I knew that yeast wasn't going to be the field of my future," Chen says. "Even before I started writing my dissertation, I was looking around for a postdoc position in a field that would be hot down the line."

That very opportunity came when she landed a postdoc, again at the University of Texas Southwestern Medical School—but this represented a complete change of field, for now she would be working in mammalian cell systems, a field that is extremely at its mercy. She studied low-density lipoprotein receptor systems, with applications in cardiovascular medicine. Her mentors in that endeavor were Joseph L. Goldstein and Michael S. Brown, whose work with LDL receptors had earned them the 1985 Nobel Prize. A good interview with Glaxo and a recommendation from Goldstein and Brown led to the job.

Now she works in molecular genetics, "a primary area of recruitment for Glaxo right now," according to Michaux. Chen uses DNA technology in genetic engineering techniques; her expertise in mammalian cell tissue work now stands her in good stead. "For me it's not all research. I spend about 10 to 20 percent of my time writing," she says. "Just keeping careful lab records is a substantial writing task. And you have to be able to communicate verbally, since so much of your job is at team meetings, presentations, and outside communications such as at professional meetings."

Feldman is impressed by the growing industry savvy of science job-seekers. "Both undergraduate and graduate scientists are more aware of the employment opportunities than I was in grad school. Graduate students especially are quite knowledgeable about the pharmaceutical industry. As the industry becomes more complex, that's a trend that can only continue."

Michaux, Feldman, and Chen recommend that job-seekers in pharmaceuticals choose a prominent program at a school respected in their chosen field; get lots of laboratory experience; get a mentor who can direct their study and career goals; get the advanced degree; do postdoctoral research in a field that will either stay hot or will heat up in the next 10 years; acquire skills and expertise that cross disciplinary lines; learn to communicate well; and stay flexible as fields and industries change.

Fateful Decisions at Sandoz

Anticipating the future now has helped Sandoz stay with the big changes in biopharmaceuticals

Two fateful decisions at Sandoz in the mid-1980s have shaped job opportunities for the better. "Back then many of the big pharmaceutical companies were increasing the size of the sales forces," says Larry Bauer, executive director of public affairs for Sandoz. "We didn't. Instead, we felt the company's future depended on continued research and development. That's meant we haven't needed to do the retrenching that's now so common." It has also meant that Sandoz has always been a front-runner in pharmaceuticals.

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The second decision was to embrace the then-new field of biotechnology. Michael Swerdloff, assistant director of human resources for the Sandoz Research Institute, calls this move "a big change in emphasis both in the industry at large and in
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Responsible for laboratory scale development of enzymes, antibiotics, and other fermentation compounds for scale-up to pilot plant and production environment. Qualifications include a Ph.D. in Biochemistry, Enzymology or closely related science along with academic training and research experience in microbiology as related to bacterial and fungal fermentations, and in enzyme technology as related to recovery, purification, immobilization and use application. Please reply to: Position # IW-058.

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Perform all assays required to support validation studies. This will entail monitoring residual product/contaminants in all cleaning validations of fermentation and purification equipment, monitoring the quality (HPLC, SDS-PAGE, ELISA IEF, Bioactivity, binding assays) for all critical process operating parameter validations, and performing biochemical-related assays required for validations of the utilities. Please reply to: Position # SC-002.

MICROBIAL DEVELOPMENT ENGINEER
This position is responsible for preparing operating instructions and monitoring pilot plant operations to develop/produce penicillin and other antibiotics. You will also evaluate new techniques in pilot plant operations and oversee large scale fermentation processes. Requires a B.S. in Engineering with 6 - 8 years experience or an M.S. degree with 4 - 6 years experience.
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Responsible for the application of engineering knowledge to cell culture process design and development including developing procedures for cell culture media and process optimization. Candidate must have an M.S. in Chemical/Biochemical Engineering with 5 years industrial or related experience. Familiarity with stirred suspension cell culture technology and prior working experience in greater than 10 liter scale mammalian cell culture are desired. Prior experience in cGMP operation is preferred.
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MOLECULAR BIOLOGY: Scientists with foreign gene expression experience using mammalian and insect cell systems. Successful candidates will be responsible for: the design and development of vaccines to protect humans from assorted viral and bacterial pathogens; the production and characterization of genetically engineered and authentically configured vaccine immunogens; modifying existing expression systems for optimal foreign antigen production; and the generation of novel proprietary expression systems.

BACTERIOLOGY: Scientists with comprehensive training in bacterial disease pathogenesis. Previous experience with Chlamydia gene expression is desirable. Successful candidates will participate in the design and development of recombinant DNA and synthetic peptide vaccines.

CELLULAR IMMUNOLOGY: Scientists with an interest in antigen identification for vaccine design and experience in cellular immunology, especially CTL and proliferative assays for development of synthetic vaccines and therapeutics. Additional experience in B cell immunology, computer modeling, MHC peptide elution or MHC binding assays is desirable.

ANIMAL STUDIES: Scientist with experience in conducting preclinical studies of vaccines/therapeutics to manage a multidisciplinary program of small animal and primate studies for the development of human vaccines and therapies. The successful candidate will coordinate activities of multiple scientists and contractors, and manage a staff of research associates conducting preclinical immunization studies. Applicants should possess a PhD or DVM; 2-4 years Virology experience and experience with primate models of human disease would be desirable.

RESEARCH ASSOCIATES: Positions are available to support our ongoing efforts in vaccine development for the programs listed. Applicants should possess a BS/MS in Biological Sciences, and 2-4 years laboratory experience would be desirable. Responsibilities include planning and conducting experimental protocols, data analysis, written/oral data presentations.

TUMOR BIOLOGY: Scientists with experience in tumor biology and a strong background in tumor immunology to participate in the development of therapies for prostate cancer and other malignancies. Additional experience in the identification of tumor specific antigens is desirable.

MUCOSAL DELIVERY: Scientists with expertise in mucosal immunization for induction of systemic and local immune responses. Individuals with experience in promotion of mucosal uptake of antigens by means of novel delivery systems/enhances/adjuvants is desirable. Previous experience in preparation of pharmaceutical formulations for human use is also desirable. Successful candidates will participate in the formulation, evaluation and development of mucosally administered vaccines or therapies.

MUCOSAL IMMUNOLOGY: Scientists with experience in mucosal immunology for development of synthetic vaccines and therapeutics. Experience with IgA assays; mucosal cellular immunity assays, and other measurements of local secretory immunity is desirable.

VACCINE FORMULATION: Scientists with expertise in the formulation of antigen delivery systems to stimulate cellular, humoral, and mucosal immune responses. Priority will be given to individuals with experience in the preparation and characterization of stable, sterile emulsions for administration to humans. In addition, special consideration will be given to candidates with extensive experience of vaccine adjuvant formulations.

MANAGER, BUSINESS DEVELOPMENT: Applicants should possess PhD or equivalent in Biomedical Science, and minimum 3 years experience in business development in the pharmaceutical or biotechnology industry. MBA would be desirable. Successful candidate will focus on licensing and acquisitions, and company-investor relations, and will interface with senior management in the area of strategic planning.

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Sandoz in particular,” Daniel Levitt, executive director of the cytokine development unit at Sandoz, says, “The industry in the late ’80s looked at itself and asked, “Where do we need to be in 10 to 15 years to maintain a competitive position? Answer: stay or get on the cutting edge in these new key areas. Sandoz made that commitment in the mid-1980s. We were an early aggressive mover in this direction and have stayed with it.” Levitt’s research is an excellent case in point. “Clinical research is part of a matrix—it’s not just trials, but also development, licensing, regulatory affairs, and testing novel technologies. We’re working with groups growing bone marrow cells in culture for reinfusion. That requires interaction with gene therapy companies. Use of bone marrow as a vehicle for engineered genes or as reinfusion for cancer therapy—that’s a vanguard science.”

Swerdloff affirms that there will always be a baseline need for organic medicinal chemists in the pharmaceuticals industry—but “The introduction of genes into organs and cells by viral and liposomal mechanisms, and being able to target them to specific organs and get them to function in an organ-specific manner—that’s a very hot field. And signal transduction—dealing with various signaling enzymes, transcription regulatory factors, and cell cycle control proteins—that’s a very hot area in a number of different therapeutic applications.”

“Companies understand now that they can’t develop everything by themselves,” says Swerdloff. “That’s why we have so many research projects with other companies, biotech firms, and universities.” Sandoz has a continuing collaboration with Johns Hopkins University, and a 10-year, $100-million joint research project in oncology with Dana-Farber. “Changes are happening so fast that companies are supporting research at universities and biotechs just to stay involved and at the forefront. Many of the biologists we’re hiring—molecular biologists, molecular geneticists, oncologists, cell biologists—really are the same people who are working in biotech. More is happening on the cellular and molecular level. That tends to require very multidisciplinary research. It’s not really new—but it’s the strongest trend out there.”

At Sandoz, then, the corps of pharmacologists and organic chemists now work closely with a growing corps of molecular and cell biologists and immunologists. New work on drug delivery requires pharmaceutical science degrees as well as analytical and physical chemists. “Bionanalytical people are in demand,” Swerdloff says, “for work with HPLC and other chromatography. And biostatisticians are in great demand.” In clinical research, the needs are especially diverse. “We’re looking for PhDs in preclinical pharmacology, toxicology, pharmacokinetic evaluations; people from BS to PhD to work as CRA’s at all levels,” Levitt says. “We’re looking for MDs with backgrounds in oncology, immunology, and infectious diseases. RNs are also important: they are the ones who have the most patient contact; they help administer the trials and handle the data.”

With all the activity and all the crossing and merging of boundaries, it is difficult for Larry Bauer not to be optimistic. “In the next 25 years, given the freedom to explore and the resources to invest, this industry is going to find the cure for many kinds of cancer, significant treatments for AIDS, and cures for multiple sclerosis and myasthenia gravis. Tomorrow’s cures are going to come from here.”

John Timpane, PhD, writes frequently on pharmaceuticals and biotechnology.
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GENETIC EPIDEMIOLOGIST

- We are looking for an individual with experience in modern methods of genetic epidemiology. The ideal candidate will have post-doctoral experience and research interest in analysis of complex traits in human populations. Knowledge of non-parametric methods, linkage analysis and related analytic methods is essential. The candidate is expected to assume a prominent position in the human genetics program as well as in the development of a world class bioinformatics group. **SM-03.**

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- Expertise in expression cloning, mammalian cell culture, gene expression and functional assays, Northern, Western Blot, IP and RIA techniques. A working knowledge of protein purification is desirable. The position requires a BS/MS, along with 4 plus years' experience in cell and molecular biology. **SM-04.**

- BS/MS level scientist with 5 years' experience in Molecular Biology, Biochemistry or Biology. Must be flexible, and excel in some of the following areas: molecular cloning, PCR, YACs, protein chemistry, prokaryotic/eukaryotic expression systems, PFGE, constructing and screening cDNA and genomic libraries, and in situ hybridization. **SM-05.**

- In the cDNA core group, you will use your extensive knowledge of both construction and screening of cDNA libraries for the purpose of new gene discovery. You will also work to further develop and automate these technologies. BS/MS with 5+ years relevant experience. **SM-06.**

- Working in the genomic technology group, you'll apply your skills in PCR, southern hybridization and library screening for the purpose of gene discovery. You'll also work to develop and automate these technologies. BS/MS with 2+ years relevant experience. **SM-07.**

BIOINFORMATICS

**SYBASE-DATABASE MANAGER**

- Responsibilities will include the design of multiple databases, interaction with our researchers to specify application needs, maintenance of database integrity and database backups. BS/MS in computer science or equivalent as well as 3-5 years' relevant experience. **SM-08.**

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Your credentials should include 3+ years' experience in lab automation and robotic programming, including demonstrated accomplishments in answering diverse robotic challenges. An educational background in the biological sciences and/or Mechanical or Electrical Engineering, and excellent interpersonal and communication skills are necessary. **SM-10.**
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SmithKline Beecham, a worldwide leader in the pharmaceuticals industry, has established within its Research and Development group a new unit, Advanced Technologies in Genetics (ATG), whose charter is to establish SmithKline Beecham at the forefront of genetic medicine. We currently have available opportunities for a Director and other scientific experts in the field of Bioinformatics and opportunities for scientists in Molecular Diagnostics R&D and an opportunity for a Clinical Geneticist.

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Bioinformatics Research will support the ATG effort as well as collaborate in the analysis of a unique source of scientific data. The group will be responsible for developing broad core competencies in bioinformatics, and focus on the exploration and development of advanced computational tools and their application in internal and external collaborative research.

The successful candidate for the Director position will have extensive knowledge in some of the following: bioinformatics, sequence analysis and algorithms, computational molecular biology and genomic data management. Educational achievements include a Ph.D. in a biological, chemical or computational science with at least ten years postdoctoral experience. Good interpersonal, communication and leadership skills are essential, together with the capacity to work well under pressure. Strong planning, organization and problem solving skills are also required. Demonstrated record of publication is a MUST. Refer to Job Code #M108.

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Clinical Geneticist

Working as an integral part of the ATG Management Team, composed of scientists, project managers and legal support, the Clinical Geneticist will have worldwide responsibilities for providing a center of expertise in clinical genetic medicine to support the activities of Research and Development as both groups incorporate the rapidly emerging clinical aspects of genomic technologies into their core competencies.

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NEUROBIOLOGIST: The Department of Cell Biology, Neurobiology and Anatomy, University of Cincinnati, invites applications for a tenure-track faculty position at the ASSISTANT or ASSOCIATE PROFESSOR level. We seek an outstanding scientist with expertise in development of neurobiology or neuroendocrinology, using cellular or molecular approaches. Applicants must have a Ph.D., postdoctoral experience and a strong publication record. The successful candidate will be expected to establish a vigorous, independent research program with extramural funding and participate in the teaching of graduate and medical students. The position offers a competitive salary and laboratory start-up package. Applications should include curriculum vitae, a concise statement of further research plans and names of three references to: Dr. Nira Ben-Jonathan, Chair, Search Committee, Department of Cell Biology, Neurobiology and Anatomy, University of Cincinnati College of Medicine, P.O. Box 670521, Cincinnati, OH 45267-0521. University of Cincinnati is an Affirmative Action/Equal Opportunity Employer.

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ASSISTANT PROFESSOR TOXICOLOGY—Immediate Opening: Northeast Louisiana University School of Pharmacy invites applications for the position of Assistant Professor of Toxicology. Candidates for this 12-month tenure-track position should possess a Ph.D. degree and 1 to 3 years of postdoctoral experience. Although individuals with experience in aquatic toxicology are preferred, qualified scientists in any area of toxicology will be considered. The successful candidate will serve as a graduate student advisor and teach a graduate course in toxicology (B.S. Toxicology) and graduate (M.S. and Ph.D. programs) teaching and be expected to develop an externally funded research program. Interested individuals should submit a letter of application including a statement of research interests, complete curriculum vitae, and the names of three references to: Dr. Carey Pope, School of Pharmacy, Northeast Louisiana University, Monroe, LA 71209-0470. Northeast Louisiana University is an Equal Opportunity Employer. Applications are encouraged from women and members of minority groups.

COGNITIVE PSYCHOLOGIST

The psychology department at the University of California, Davis, is actively seeking applicants for a tenured or tenure-track position in COGNITIVE PSYCHOLOGY. The University of California, Davis, is an Affirmative Action/Equal Opportunity Employer with a strong institutional commitment to the achievement of equity for all groups among its faculty and staff. In that spirit, we are particularly interested in receiving applications from persons of underrepresented groups including women, persons of color, disabled veterans, Vietnam-era veterans, and persons with disabilities.

The Department of Medicinal Chemistry at the University of Georgia College of Pharmacy invites applications for a tenure-track position at the ASSISTANT/ASSOCIATE PROFESSOR level, effective January 1, 1995. The successful applicant will carry out independent, active and influential research in an area of medicinal chemistry that promotes the development of new pharmaceutical agents and in teaching curricular activities in medicinal and biological chemistry at the undergraduate and graduate levels. Applicants should have an outstanding research program in medicinal chemistry that complement current faculty activities in chromatography and capillary electrophoresis. The position should be comprised of 50% of time spent in research and 50% of time spent in teaching a professional curriculum with a commitment to the mentoring and education of graduate students. We seek applicants interested in developing collaborative research activities with faculty at the University of Georgia, the Medical College of Georgia and other institutions. Experience in mass spectrometry and its application to LC and CZE separations is desirable. Send complete curriculum vitae, a summary of current research, a concise outline of future research plans and funding possibilities, plus the names of at least three references to: Dr. Peter C. Ruetschi, Department of Medicinal Chemistry, College of Pharmacy, University of Georgia, Athens, GA 30602-2352 by August 15, 1994. Salary will be commensurate with experience. The University of Georgia is an Equal Opportunity/Affirmative Action Employer and actively seeks the candidacy of minorities and women.

RHEUMATOLOGIST—NORTHWESTERN UNIVERSITY MEDICAL SCHOOL: Full-time position available for academic rheumatologist with research and teaching responsibilities. Experience in organized practice, e.g., mediators, cytokines, or receptors. Academic appointment in the Division of Arthritis-Connective Tissue Diseases at the rank of ASSISTANT PROFESSOR. Highly competitive salary and benefit package. Send curriculum vitae and reply to: Richard M. Pope, M.D., Chief, Arthritis-Connective Tissue Division, Northwestern University Medical School, 303 East Chicago Avenue, Ward 3-315, Chicago, IL 60611. Equal Opportunity Employer, M/F.

N E W  N E W  N E W

P O S I T I O N S  O P E N

ASSISTANT PROFESSOR/ASSOCIATE PROFESSOR

The Hormel Institute, a lipid research center of the University of Minnesota, invites applications for a faculty appointment at Assistant or Associate Professor rank. The successful candidate must demonstrate the ability to establish an independent, extramurally funded research program. Research interests include but are not limited to the structure, function, and regulation of membrane-dependent cellular functions. A Ph.D. (or equivalent) degree and 2 to 3 years of postdoctoral experience are required, along with additional research experience and with excellent organizational, supervisory, and communication skills are desired. A complete application consists of a vita, a research plan, and the names of three references received no later than June 1, 1994, by: Dr. H. H. O. Schmid, Director, The Hormel Institute, 800 4th Avenue NE, Austin, MN 55912. The University of Minnesota is an Equal Opportunity Educator and Employer.

ASSISTANT PROFESSOR OF MOLECULAR DERMATOLOGY

The College of Physicians and Surgeons of Columbia University, Department of Dermatology is currently seeking a full-time, tenured faculty member. The candidate must have a Ph.D. degree and a strong research background in molecular biology and regulation of gene expression. The successful applicant will be responsible for directing a research program in molecular biology and regulation of gene expression relevant to cutaneous biology. Applicants must be board certified or be eligible in Dermatology. Interested applicants are invited to mail curriculum vitae and three letters of reference, directly to: David B. Bickers, M.D., Carl Truman Nelson Professor and Chairman, Department of Dermatology, Columbia Presbyterian Medical Center, 622 West 168th Street, New York, NY 10032. Columbia University is an Equal Opportunity/Affirmative Action Employer.

NEUROBIOLOGIST

The Department of Biology at Utah State University (USU) invites applications for a tenure-track faculty position at the ASSISTANT/ASSOCIATE PROFESSOR level. The successful candidate is expected to conduct an externally funded research program in NEUROBIOLOGY on a topic relevant to the Department of Biological Sciences. Salary is competitive with those offered by other universities. Teaching load is two courses per year. USU is an Equal Opportunity/Affirmative Action Employer. Send curriculum vitae, a statement of research plans, and names and addresses of three references to: Dr. Jan Y. Takemoto, Chair, Neurobiologist Search Committee, Department of Biology, Utah State University, Logan, UT 84322-5305. Screening of applicants will begin July 1, 1994, and will continue until a suitable person is selected. USU is an Equal Opportunity/Affirmative Action Employer.

HARVARD UNIVERSITY

The Department of Psychology seeks to make a SENIOR APPOINTMENT in the area of cognitive psychology with particular focus in psycholinguistics or reasoning. Familiarity with multiple research methodologies is desirable. Applicants must have an international reputation and active research program that either supplements or complements the research at Harvard. Applications should describe their interest by writing: Roberto N. Lasry, Interim Director, Department of Psychology, Harvard University, 33 Kirkland Street, Cambridge, MA 02138. Curriculum vitae and selected publications should be sent by August 1, 1994. Applications received by May 15, 1994, will be considered. Applications will be accepted until May 15, 1994. Correspondence should be addressed to: Charles D. Fillmore, Chairman, Search Committee, Department of Psychology, Harvard University, 26 Oxford Street, Cambridge, MA 02138. Harvard University is an Equal Opportunity/Affirmative Action Employer.

P O S I T I O N S  O P E N

DEPARTMENT OF MICROBIOLOGY ColorADORADO STATE UNIVERSITY

Faculty Position in MOLECULAR BIOLOGY and INFECTIOUS PATHOGENESIS

The Department of Microbiology at Colorado State University invites applications for a tenure-track ASSISTANT or ASSOCIATE PROFESSOR position to address the molecular biology of bacterial pathogenesis. Preference will be given to individuals actively pursuing molecular biology and biochemical approaches to investigation of fundamental processes in the interaction of bacterial pathogens with host defenses. The Ph.D. is either D.V.M./Ph.D., M.D./Ph.D. or equivalent degree, and relevant postdoctoral research experience. The successful applicant will be expected to develop an innovative extramurally funded research program that complements the existing interdepartmental University Program of Research and Scholarly Excellence in Infectious Diseases and Immunology. Direction of graduate students and teaching at the undergraduate and graduate levels are crucial responsibilities of this position. Applicants should send curriculum vitae, a statement of research interests and goals, and a list of at least three references by May 31, 1994, to: Dr. Patrick J. Brennan, Search Committee, Department of Microbiology, Colorado State University, Fort Collins, CO 80523; Telephone: 303-491-6700. Salary negotiable.

The Department of Psychiatry and Behavioral Sciences at Stanford University School of Medicine is seeking to fill the position of ASSOCIATE PROFESSOR (Research) in Psychiatry and Behavioral Sciences. This is a non-tenure-track appointment. The major focus of this appointment is in the area of psychoanalytic intervention and health. Desired areas of substantive interest and expertise include: intervention targeting health and psychosocial outcomes, substance use and other health risk behaviors, chronic illness and pain, and psychosocial reactions to trauma and pain. Methodological expertise is sought in coordinating large intervention research projects and in recruiting and maintaining follow-up with research participants from diverse populations. Qualifications also include a completed doctoral degree, relevant postdoctoral research and teaching experience, and a publication record. Application closing date is 30 days after publication of this advertisement. Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates. Please send curriculum vitae and the names of five references to: David Spiegel, M.D., Professor and Chairman, Department of Psychiatry and Behavioral Sciences, School of Medicine, Stanford University, Stanford, CA 94305.

ASSOCIATE DEAN FOR BIOMEDICAL SCIENCES

The School of Medicine of the State University of New York at Stony Brook is seeking an Associate Dean for Biomedical Sciences. The University Medical Center at Stony Brook is the only comprehensive university medical center on Long Island. It is an integral part of the Health Sciences Center on the campus of the State University of New York at Stony Brook, located approximately 50 miles from New York City. SUNY Stony Brook is a comprehensive research university with over 16,000 students and 100 degree-granting programs. Responsibilities of the Associate Dean for Biomedical Sciences include: supporting the research agenda and scientific and clinical research faculty of the School of Medicine, supporting interdisciplinary research efforts and medical school, and clinical education goals, advising the dean regarding allocation of research resources, and administration of the School of Medicine's Medical Scientists Training Program, and serving on committees. Candidates must be qualified for a senior faculty appointment. Applications will be accepted until May 15, 1994. Correspondence should be addressed to: Charles D. Fillmore, Chairman, Search Committee, Department of Psychology, Harvard University, 26 Oxford Street, Cambridge, MA 02138. Harvard University is an Equal Opportunity/Affirmative Action Employer.

E M I L Y  C O R E T T E L L ,  M.D., Executive Associate Dean, School of Medicine, University of California at Stony Brook, Stony Brook, NY 11794-8430.
Research Associates

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.

CARDIOVASCULAR PHARMACOLOGY

The Pharmacology Department is currently seeking a BS/MS level research associate to assist in ongoing cardiovascular research efforts. This position requires prior experience with in vitro pharmacological methods including isolated tissue systems. Understanding of data analysis and statistics would be desirable. (Job Code: OA-SC-CT-001)

PHARMACOLOGY

This position requires a BS/MS in Biology or related discipline, and experience in using in vivo models to test the efficacy of anti-inflammatory compounds. HPLC and immunoassay experience is desirable. (Job Code: OA-SC-AC-001)

NEUROBIOLOGY

This position requires either 5 years’ experience (with a BS) or 2 years’ experience (with a MS) in broad aspects of Molecular Biology - especially in the expression cloning of receptor protein. Tissue culture experience is also required. (Job Code: OA-SC-HY-001)

PROTEIN CHEMISTRY

Research associates are sought to work with scientists in the Protein Chemistry Department. Ongoing projects encompass studies in tissue factors, neurobiology, inflammation and hematopoiesis. These positions require a BS/MS degree in Biochemistry or a related field and relevant laboratory experience in protein purification. Knowledge of chromatography (HPLC and FPLC) and electrophoresis is desirable. (Job Code: OA-SC-KW-001)

All positions require strong oral and written communication skills as well as a high degree of organization and computer literacy.

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 (with resume/cv.) to: FAX (805) 447-1985. Amgen, Inc., Staffing, Job Code (see above), Amgen Center, Thousand Oaks, CA 91320-7819. For additional information regarding Amgen’s recruitment process, please call (805) 447-4150. Principals only, please. EEO-Affirmative Action Employer M/F/D/V.

POSTDOCTORAL/ RESEARCH ASSOCIATE POSITIONS

Postdoctoral/research associate positions available for molecular and cellular biologists to study the regulatory mechanisms controlling proliferation and differentiation. Program interests emphasize two separate areas: the differentiation of keratinocytes and the growth regulatory activities that control the cell cycle. Experience with standard molecular biological techniques, protein analysis, and cell culture is required. Candidates must have a Ph.D. or equivalent. Excellent environment and competitive salary. Send curriculum vitae and the names, addresses, and telephone numbers of three references to: W.J. Pledger, Ph.D., H. Lee Moffitt Cancer Center and Research Institute, 12902 Magnolia Drive, Tampa, FL 33612-9497.

H. LEE MOFFITT CANCER CENTER & RESEARCH INSTITUTE

Moffitt Cancer Center is an Equal Opportunity Employer.

POST DOCTORAL POSITION AVAILABLE AT PROCEPT, INC.

Funded by the National Cooperative Drug Discovery Group of the National Institutes of Health for Design and Synthesis of Anti-AIDS Drug Candidates

POST DOCTORAL POSITION

COMPUTATIONAL CHEMISTRY

This position is dedicated to the CD4/gp120 structure-based design of inhibitors using novel computational approaches. This is a joint endeavor pursued with our collaborators at Harvard University and the University of California, San Francisco. Requires a Ph.D.

POST DOCTORAL POSITION

SYNTHETIC CHEMISTRY

This position is for a creative organic chemist who will synthesize CD4/gp120 inhibitors that bind to or mimic CD4 or gp120. This project offers a unique opportunity for a creative chemist to translate structural concepts to the design and synthesis of small molecule drug candidates. This project is pursued in collaboration with MIT and Harvard investigators. Requires a Ph.D.

Modern tools of drug discovery available at Procept include on-site 250 and 500 MHz NMR, access to 750 MHz NMR, and modern synthetic and molecular modeling facilities. These projects represent cutting edge drug discovery research and are expected to result in highly publishable results.

Procept offers a comprehensive benefits and compensation package. Please send your curriculum vitae to: Jean Fletcher, Director of Human Resources, Procept, Inc., 840 Memorial Drive, Cambridge, MA 02139. Procept is an equal opportunity employer.
**STRATEGIES FOR PREDICTING CHEMICAL CARCINOGENESIS IN RODENTS**

The National Toxicology Program conducts highly standardized rodent bioassays for toxicity and carcinogenicity. These assays provide a unique opportunity to prospectively evaluate methods that might serve as complementary procedures or alternatives to the bioassay.

This announcement is prompted by the success of the recent International Workshop on Predicting Chemical Carcinogenesis in Rodents, held at the National Institute of Environmental Health Sciences on May 24 and 25, 1993 [Wachsmuth et al., Environ. Health Perspect. 101 (1993) 444-445]. It is designed to promote the continued growth of the predictive process by encouraging the widest possible participation in the development and refinement of alternative strategies. The following chemicals, currently being tested for rodent carcinogenicity, will form the basis for the next challenging round of the prediction validation process.

Participants are invited to present their predictions in manuscript form and to include both the rationale behind each prediction as well as some estimate of the potency of each projected carcinogen, using any preferred definition of this parameter. Manuscripts should be sent to NIEHS and, in addition, be submitted for review and publication in Environmental Health Perspectives or any other high quality peer-reviewed journal. To ensure that predictions are made prior to completion of bioassays, a deadline of December 31, 1995 has been established. Upon request, NIEHS will provide participants with information on the dosage, genetic toxicity, purity, and route of administration of each chemical, as well as access to information available on metabolism, distribution, and toxicity. Participants using an experimental approach to the predictive process can request samples of each chemical. For additional information contact:

Dr. J.T. Wachsmuth, NIEHS, B3-09, P.O. Box 12233, Research Triangle Park, NC 27709 or FAX: 919-541-1460

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**OSIRIS THERAPEUTICS, INC.**

BioOrthopaedics for Cartilage, Bone and Soft Tissue Regeneration

Osiris Therapeutics is a developer of cellular transplants and cell-matrix products to regenerate injured or defective mesenchymal tissues such as bone, cartilage, ligament, muscle and marrow stroma. The Company is seeking highly motivated, creative scientists to direct and conduct research and product development using the Company’s patented stem cell technology. Opportunities exist for Research Managers and Scientists (M.D./Ph.D.) and Research Associates (M.S./B.S.).

**Director of Process Development**

We are seeking an individual with broad-based industrial experience with focus in the area of biotechnology. Specifically, this position will be responsible for all cell culture operations, media optimization and scale-up of cell systems leading to tissue-engineered products. This individual will be able to take research-level cell culture processes, and transform these to pilot plant/manufacturing operations. Process development/manufacturing experience including validation, documentation, SOPs and implementation of GMP is important. Clean room, aseptic processing and experience with culture/expansion of hematopoietic stem cells or other primary cells is desirable.

**Senior Research Scientist--Gene Therapy**

Immediate opening for experienced Ph.D./M.D. scientist with 2-5 years postdoctoral experience in stem cell or progenitor cell gene transfer technology. Research projects will focus on gene therapy for musculoskeletal gene defects, acquired tissue disorders and the in vivo production of therapeutic drugs in differentiated mesenchymal tissues. The successful candidate will combine strong basic science skills with an ability to develop therapeutic endpoints in both animal and clinical models.

The Company offers competitive wages and benefits and an attractive stock option plan. Prospective candidates are encouraged to send resumes and supporting credentials to: Osiris Therapeutics, Inc., P.O. Box 1980, Cleveland, Ohio 44106-0180. We are an affirmative action/equal opportunity employer.
**Cancer Prevention Fellowship Program**

The Division of Cancer Prevention and Control (DCPC), NCI, is accepting applications for the Cancer Prevention Fellowship Program (CPFP). The purpose of this program is to train individuals from a multiplicity of health science disciplines in the field of cancer prevention and control. The program provides for: Master of Public Health training (at accredited university programs); Participation in the DCPC Cancer Prevention and Control Academic Summer Course (open to all physicians and scientists interested in learning the principles and practice of cancer prevention and control); Working at DCPC directly with individual preceptors on cancer prevention and control projects; Brief field assignments in cancer prevention and control programs at other institutions. Funding permitting, as many as ten Fellows will be accepted for up to three years of training, beginning July 1, 1995. Benefits include selected relocation and travel expenses, paid federal holidays, and participation health insurance.

**Eligibility**

M.D., D.D.S., or D.O. from a U.S., territorial, or Canadian Medical School. Foreign medical graduates must have current ECFMG/FGMECS or USMLE certification and appropriate experience, e.g., one year residency in a training program approved by the Accreditation Council for Graduate Medical Education.

Or Ph.D., Dr.P.H. or other doctoral degree in a related discipline (epidemiology, biostatistics, and the biomedical, nutritional, public health or behavioral sciences). Foreign education must be comparable to that received in accredited U.S., territorial, or Canadian institutions.

**Plus**

U.S. citizenship or resident alien eligible for citizenship within four years.

For details and an application catalog either call, fax or send a postcard or letter with your name and home address to:

**Douglas L. Weed, M.D., M.P.H., Ph.D.**
**Director**
**Cancer Prevention Fellowship Program**
**Division of Cancer Prevention and Control**
**National Cancer Institute**
**Executive Plaza South, T-41**
**Bethesda, MD 20892**

Further Inquiries: Mrs. Barbara Redding
**TELEPHONE(301) 496-8640**
**FAX(301) 402-4863**

**Deadline for receipt of applications:**
**September 1, 1994**

NIH is an Equal Opportunity Employer
POSITIONS OPEN

MOLECULAR BIOLIGIST

RESEARCH ASSISTANT PROFESSOR to study transcription factors in hormone action and aging. Post-doctoral experience in DNA-protein interaction and expression cloning is required. Send curriculum vitae and names of three references to: Arun K. Roy, Ph.D., Professor of Cellular & Structural Biology, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7762. The University of Texas Health Science Center at San Antonio is an Equal Employment Opportunity/Affirmative Action Employer.

JUNIOR FACULTY POSITION

SECTION OF IMMUNOBIOLOGY

The Section of Immunobiology seeks applicants for a junior faculty position. Qualified applicants in all areas of immunobiology are invited to apply. We are particularly interested in candidates who will complement the existing faculty. Research interests represented within the Section of Immunobiology include T lymphocyte activation, differentiation and tolerance; T lymphocyte development; antigen processing and presentation; transcriptional regulation; cytokines; immunoglobulin gene rearrangement and autoimmunity. Candidates are expected to develop an independent research program and to participate in departmental teaching. The Section of Immunobiology is committed to increasing representation of members of minority groups and women on the faculty and particularly encourages applications from such candidates. A candidate's application package must include curriculum vitae, a summary of present and future research interests and three letters of recommendation. Completed applications should be received by the department on or before January 15, 1994. Each applicant should forward a statement, one to two pages, presenting his/her vision of the role of an academic department in the natural resources field and provide name, title, address and telephone number for five references. Forward applications by June 15, 1994, to: Lee E. Sommers, Chairperson, Department of Environ- nent Head Search, 102 Natural Resources Building, Colorado State University, Fort Collins, CO 80523.


BILKENT UNIVERSITY

FACULTY POSITIONS IN MOLECULAR BIOLOGY AND GENETICS

A new department of Molecular Biology and Genetics is being established in the Faculty of Science of Bilkent University. Undergraduate and graduate programs are planned to be initiated in the fall of 1995. The department is being equipped with modern research facilities and equipment to facilitate teaching and carrying out molecular biology research. Research facilities will include well-equipped laboratories, a good library, excellent computer and networking facilities, and modern working conditions. There are three major teaching hospitals and medical schools in the area to encourage collaboration and interdisciplinary research.

Applications at the level of professor and assistant professor are invited for faculty positions to coordinate research programs and to participate in undergraduate and graduate teaching and thesis supervision.

Rank and salary will depend on experience and qualifications. Salary is competitive and incorporates regular cost of living adjustments. Free, fully furnished on-campus housing is provided. Please send resume and names of three references to: Search Committee for MBG, Faculty of Science, 06553 Bilkent, Ankara Turkey. Further information can be obtained by mail or through E-mail: science@fen.bilkent.edu.tr.

ZOOLOGY/NUTRITION

BLOOMSBURG UNIVERSITY's Department of Biological and Allied Health Sciences has a full-time, nine-month position for a Zoologist/Nutritionist beginning in late August 1994. Primary responsibility will be to teach undergraduate courses in human nutrition and zoology/nutrition. A Ph.D., preferably in zoology, with education in nutrition is required. Send a letter of application, curriculum vitae, official undergraduate and graduate transcripts, and three letters of recommendation to: James E. Cole, Ph.D., Chairperson, Z/N Search Committee, Department of Biological & Allied Health Sciences, Bloomsburg University, Bloomsburg, PA 17815. Deadline is May 6, 1994. Bloomsburg University is an Equal Opportunity/Affirmative Action Employer.

DEPARTMENT HEAD

Department of Rangeland Ecosystem Science

Colorado State University (CSU)

The Department seeks an individual with vision, leadership, and experience in the fields of range management and natural resource conservation. Candidates must demonstrate competence in the following areas: (a) academic and/or research administration; (b) undergraduate and graduate teaching; (c) basic and/or applied research as shown by contracts, grants and publications; (d) faculty, student and alumni relations; professional society activities, and interactions with clientele; and (e) interpersonal and communication skills. Send a letter of interest and professional experience detailing academic and administrative responsibilities, teaching and advising activities, publications, research projects conducted and professional service contributions. Position available January 1994. Each applicant should forward a statement, one to two pages, presenting his/her vision of the role of an academic department in the natural resources field and provide name, title, address and telephone number for five references. Forward applications by June 15, 1994, to: Lee E. Sommers, Chairperson, Department of Environment Head Search, 102 Natural Resources Building, Colorado State University, Fort Collins, CO 80523.


CHAIR

DEPARTMENT OF NEUROBIOLOGY

SCHOOL OF MEDICINE

University of California, Los Angeles (UCLA)

The UCLA School of Medicine is seeking a distinguished scientist to serve as Chair of the newly organized Department of Neurobiology. We are concurrently seeking candidates for the Eleanor I. Leslie Endowed Chair in Neuroscience. The Chair of this basic science department will be responsible for both undergraduate and graduate education in the areas of neuro-anatomy and cell biology, and for leadership of an active program of research in the neurosciences.

Interested applicants should have strong records of significant research accomplishments and a commitment to excellence in graduate education and research. Applicants, including curriculum vitae, should be sent within six weeks to:

John C. Mazzotti, M.D., Ph.D.
Chair, Neurobiology Chair Search Committee
c/o Ann and Jack Levy's Office
12-138 CHS
UCLA School of Medicine
Los Angeles, CA 90024-1722

UCLA is an Equal Opportunity/Affirmative Action/Equal Opportunity Employer.

CHIEF, ILLINOIS STATE GEOLOGICAL SURVEY (ISGS)

Provide scientific leadership and administrative direction to staff of approximately 200 scientific and technical support personnel conducting basic and applied research. A Ph.D. in geosciences with an established research record; demonstrated ability of leadership and administration of a multidisciplinary organization; record of adherence to EEO guidelines; articulate and persuasive oral and written communication skills; and the ability to attract funding for research. To apply, send letter of application and curriculum vitae by July 1, 1994, to: Chairman, Chief Search Committee, Illinois State Geological Survey, 615 East Peabody Drive, Bloomington, IL 61701. Postdoctoral experience is desirable but not mandatory. Advertisements are underwritten by an equal employment opportunity grant from the Department of the Interior, U.S. Geological Survey.

ISGS is an Affirmative Action/Equal Employment Opportunity and ADA Employer.

EDITOR

Journal of Clinical Pharmacology, Official Publication of the American College of Clinical Pharmacology. Emphasis in the field of pharmacology, clinical pharmacology, and drug therapy. A Ph.D. in Pharmacology or related discipline is essential. The individual will serve as an associate editor, or as a member of editorial boards of scientific journals, private practice, or government laboratories. Experience in the editorial profession is desirable. Send curriculum vitae, a concise statement of research interests, and letters of reference to: Chair, Microbiology Search Committee, Department of Microbiology, Box 441, School of Medicine, Virginia Commonwealth University, Richmond, VA 23298. Applications should be received by June 30, 1994.

BACTERIAL PATHOGENESIS

The Department of Microbiology, University of Virginia, is expanding its program in molecular pathogenesis to complement existing strengths in molecular genetics, microbiology, and virology. A tenure-track position in the area of molecular pathogenesis is available in the area of the molecular, genetic or cellular aspects of bacterial pathogenesis. Outstanding candidates with a Ph.D. and postdoctoral experience are invited to apply for this position. The successful candidate is expected to establish a successful, independent and interactive research program, and will have some teaching responsibilities. Only those applicants who submit curriculum vitae, a concise statement of research interests, and selected reprints. Three and five letters of reference should be sent to: Chair, Microbiology Search Committee, Department of Microbiology, Box 441, School of Medicine, University of Virginia, Richmond, VA 23298. Applications should be received by May 1, 1994. The University of Virginia is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minority scientists.

PURCHASE COLLEGE

STATE UNIVERSITY OF NEW YORK

VICE PRESIDENT

FOR ACADEMIC AFFAIRS

Purchase College incorporates a School of the Arts and a College of Letters and Science. Purchase offers conservatory training in dance, music, theatre arts and film, and the visual arts, and distinguished liberal arts programs in the humanities, natural and social sciences. Its prestigious faculty is composed of scholars and artists. The College maintains a major commitment to the community through its Division of Continuing Education.

Purchase is also a major cultural center with a celebrated architectural design. Its extraordinary Performing Arts Center, renowned The Museum of Art persuades among the finest in the nation.

The College enrolls approximately 4,000 students, with 700 faculty and staff members, 500 acres in Westchester County, one-half hour north of New York City.

The Vice President for Academic Affairs is the College's chief academic officer, reporting directly to the President. The President's responsibilities include: facilitating the development and implementation of core academic programs and programs, of the academic evaluation and promotion process, budget formulation, and supervision and student and institutional support services. The College seeks a leader for the Vice President: the Deans of All Divisions, the Directors of the Performing Arts Center, the Library and the Museum, as well as the Directors of Admission, Institutional Research, EOP and the Registrar.

Candidates must have an earned doctorate or equivalent and successful administrative experience in an academic setting demonstrating the knowledge, skills, and ability to meet the responsibilities of the position. They must have a record of scholarly and professional accomplishment, a strong commitment to diversity in all aspects of the academic life. They must be articulate and willing to be an effective spokesperson for an academic community.

The salary is competitive. Women and minority candidates are encouraged to apply. Review of applications and nominations to begin immediately. Candidates should submit a resume, a letter of interest, supporting materials appropriate, and the names and addresses of five references. Nominations should include the addresses and telephone numbers of nominees. Applications and nominations should be sent to: Dr. John R. Howard, Chair, Search Committee, Vice President for Academic Affairs, Purchase College, State University of New York, Purchase, NY 10577.

EDITOR—Working scientists at all levels are wanted for free-lance editing of manuscripts from Japanese researchers who wish to publish in English. The preferred candidate will be a native speaker of Japanese who lacks this experience, but who have written papers and critiqued their colleagues' work are also encouraged to apply.
Imagine The Possibilities

At Berlex, we've built our reputation on FDA-approved product successes and a proven track record in the pharmaceutical industry. To meet the challenges before us, we're seeking several Scientists to join our newly formed Immunology Department. Working on strategic development projects focused on Multiple Sclerosis and Inflammation, the selected candidates will be based at our Richmond facility in the San Francisco Bay Area. If you would like to make a major contribution with an internationally renowned team of top-notch scientists, imagine the possibilities at Berlex.

PhD-level Scientists responding to these positions will need a solid publication record along with at least 2 to 4 years' postdoctoral experience.

MOLECULAR BIOLOGISTS

Gene Expression

We seek a Molecular Biologist with experience in the regulation of gene expression to study the regulation of cytokine genes. Experience in the field of NF κB would be helpful. Proven work background in promoter analysis, in vitro transcription, footprinting, gel retardation assays, cloning of transcription factors, reporter systems and preparing assays for screening of potential transcriptional regulators required. Dept. B94-006.

Signal Transduction

Apply your Molecular Biologist expertise and experience in the field of cytokines/chemokines to study signal transduction mechanisms. Interferon experience would be beneficial. Experience with ligand binding and receptor analysis, protein kinases involved in signaling, analysis of early genes involved in stimulus response in endothelial and CNS cells required. Experience with cloning, transfection, plasmid construction, and PCR required. Dept. B94-008.

NEUROBIOLOGIST

Myelination/Demyelination

Position requires a Neurobiologist with molecular biology experience to study the effect of cytokines on astrocyte, microglia and oligodendrocyte functions (myelination and demyelination). Experience with cell culture, immunocytochemistry, Northern & Southern blotting, cell transfection, and cytokine receptors required. Dept. B94-007.

As a US subsidiary of an international Fortune 500 company, Berlex is proud to offer competitive salaries and a generous benefits package, which includes relocation assistance to our 53-acre Bay Area campus. To apply, send your CV/resume, indicating the department number corresponding with your position of interest, to: BERLEX, HUMAN RESOURCES EMPLOYMENT, 15049 SAN PABLO AVE., RICHMOND, CA 94804-0099. EOE. Principals only please.

BERLEX

The Best Is Yet To Come
THE UNIVERSITY OF AUCKLAND - NEW ZEALAND

APPOINTMENT OF VICE-CHANCELLOR

The Council of the University of Auckland invites applications for the position of Vice-Chancellor which will become vacant at the end of 1994 following the retirement of Sir Colin Maiden.

Established in 1883, the University of Auckland has a student roll of 22,500 in ten faculties and employs some 2,600 academic and general staff.

The Vice-Chancellor is the Chief Executive Officer of the University responsible to the Council for the academic and administrative affairs of the University, and is the employer of all University staff.

The University of Auckland is New Zealand's largest university, with an international reputation in many disciplines. It strives for the highest standards in scholarship and research while facing the challenge of increased enrolments and financial constraints.

The appointee may not necessarily have spent a working life in a university but should have a clear understanding of universities and their function. The person appointed will have a respected record of academic and administrative achievements, leadership and skills which will ensure that the University of Auckland meets its prime goals. These goals include providing research-based teaching of high quality, carrying out high level research, giving its staff and students the opportunity for creative work, acting as a focus for scholarship and debate within the community and contributing towards New Zealand's social, cultural and economic wellbeing.

Applications close with the Chancellor at the University of Auckland on 1 May 1994.

Further information and method of application is available from the following:

Mr Warwick Nicoll, Registrar, University of Auckland, Private Bag 92019, Auckland 1, New Zealand, telephone (64) 9 373-7517, fax (64) 9 373-7407.

Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, England, telephone (44) 71 387-8572, fax (44) 71 383-0368.

HON. JUSTICE SIR IAN BARKER, CHANCELLOR

The University has an EEO policy and welcomes applications from all qualified persons.

UNITED ARAB EMIRATES UNIVERSITY
FACULTY OF MEDICINE & HEALTH SCIENCES

ASSISTANT/ASSOCIATE PROFESSOR
DEPARTMENT OF PHYSIOLOGY

Applications are invited for the above position in the Faculty of Medicine and Health Sciences, a newly developing Medical School founded in 1986. Individuals should have experience and interest in the teaching of undergraduate and postgraduate medical students. The Department places special emphasis on the integrative role of Physiology in the curriculum founded on the concept of problem-based learning. Fluency in English is essential as this is the language of instruction.

Applicants must have a credible research record with appropriate publications and be prepared to join faculty colleagues in departmental and administrative duties as assigned by the Head of Department.

Benefits for this position are of the highest order and include a competitive tax-free salary, free accommodation, furniture allowance and assistance with children's tuition fees (for up to 3 children). Also provided is an interest free car loan and cash-in-lieu of equivalent annual return air fares to the country of residence. An award of 8.6% of the gross annual salary is paid after each year of service.

The Emirates offers a very attractive and secure lifestyle with all the amenities and facilities of any modern society. Interested applicants may apply for this position by forwarding a comprehensive curriculum vitae, list of publications and names and addresses of four referees to:

Mr Melvin Fraser, Director of Personnel,
Faculty of Medicine and Health Sciences,
United Arab Emirates University, P.O. Box 17666,
Al Ain, United Arab Emirates.
Fax No 00971-3-657649

Applications will be closed 4 weeks after the date of publication.

In the TNF-Receptor/-Antagonist group of the department Pharma Research positions are open for a

Laboratory Leader and Postdoctoral Research Associate

Applications for the permanent position of a laboratory leader are invited from experience molecular/cell biologists with postdoctoral training. The postdoctoral position offers a two year contract with optional renewal for a third year. Applications are invited from recent Ph.D.'s with preferably one year postdoctoral experience.

The aim of the TNF group is to develop novel TNF antagonistic therapeutic strategies from a thorough understanding of molecular and cellular cytokine biology. Preference will be given to candidates with experience in advanced molecular biology techniques and experience in cell culture. Both positions in the context of the overall goal of the project offer opportunities for exploratory research (see eg. Cell 73, 431/Nature 364, 798/J. Biol. Chem. 268, 26350, 1993).

Please direct informal enquiries to Dr. W. Lesslauer (41 61 688 5942). Interested principals may send their complete application documentation to Dr. Suzanne Gräzer, quoting reference Science 36/94/Grä.

F. Hoffman-La Roche Ltd.,
P.O. Box, CH-4002 Basel, Switzerland
Research at the Glaxo Institute in Geneva is directed towards the discovery of novel molecular mechanisms that can be used as drug targets to treat serious diseases. In particular, research is focused on the CNS, allergies and inflammatory conditions. Because of recent important developments in our work on receptors and ion channels, three exciting opportunities have been created.

THREE POSTDOCTORAL POSITIONS IN MOLECULAR BIOLOGY

**Nuclear Receptors.** The successful candidate will join a team studying the regulation of gene expression in leukocytes and in the brain.

**Chemokine Receptors.** The successful candidate will join a team that is identifying novel chemokine receptors and characterising their roles in lung inflammation.

**Ligand-gated Ion Channels.** The successful candidate will join a team investigating a new class of ion channel.

The Institute has a strong publication record, which the appointee will be expected to maintain. Attendance and presentation at scientific meetings is encouraged, as well as collaborative research with academic groups.

We offer an excellent compensation and benefits package and significant opportunities for career development. Geneva, situated in a very attractive part of Europe, has many advantages as a place to live. The Institute for Molecular Biology is part of the Glaxo group, one of the world’s most successful healthcare companies which has an outstanding reputation for the quality of both its research and products.

Informal enquiries can be directed to Dr. Timothy Wells (TNCW5312@ggr.co.uk, phone +41 22 706 9824) for chemokine receptors, to Dr. John DeLamarter (JFD1410@ggr.co.uk, phone +41 22 706 9731) for nuclear receptors or to Dr. Gary Buell (GB15879@ggr.co.uk, phone +41 22 706 733 for ion channels.

If you are interested in these positions, please send your curriculum vitae with a list of publications and the names of three referees to: Rita Gloor, Personnel Manager, Glaxo Institute for Molecular Biology S.A., 14, chemin des Aulx, 1228 Plan-les-Ouates, Geneva, Switzerland.

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HEAD OF THE GENETICS DIVISION
MRC Radiobiology Unit

The MRC wishes to appoint a scientist with a distinguished record in molecular genetics, initially to the position of joint Head of the Genetics Division at the MRC Radiobiology Unit, Harwell, Oxfordshire. Council has decided that, on the retirement of the Radiobiology Unit’s current director, Professor G F Adams in 1995, the Genetics Division will become a free standing MRC Unit. The successful candidate would be the director elect of the new Unit.

The Genetics Division, currently led by Dr B M Cattanach FRS, is one of the foremost mouse genetics laboratories in the world and houses a unique resource of mutations. The appointee will be responsible initially for setting up a research team to spearhead molecular genetics research and, subsequently, for providing leadership and strategic direction for the new Unit. A key role will be to extend existing and develop new collaborations with major research teams in the University of Oxford. Discussions are currently underway between the MRC and the University of Oxford with a view to establishing formal links between the Unit and the University in the context of both research opportunities and training. The postholder will also be expected to foster and extend links with other local and national genetics research developments. He/she will be responsible to the MRC for the allocation and control of Unit resources, for the management of the Unit’s staff and attached workers and for ensuring that the Unit’s research programme contributes to MRC corporate strategy.

The creation of this new MRC Unit provides an exciting opportunity to set up a cohesive programme of molecular genetics research at an establishment with an excellent record in this field and first class facilities for such work. The Unit will be established within an environment which offers exceptional opportunities for collaborative work. This, combined with the possibility of formal relationships being forged with the University make the post particularly attractive.

The salary is negotiable within the Council’s Special Appointments Grade (equivalent to University Professorial Grade). Requests for assistance with relocation expenses will be sympathetically considered.

A job description and other additional information may be obtained from Dr Rob Bennett, MRC Headquarters Office, 20 Park Crescent, London WIN 4AL (telephone 0171 636 5422, ext.6236).

Applications should include a brief outline of the applicants’ plans for the strategic direction of the new Genetics Unit and brief future proposals for his/her personal research, together with a curriculum vitae, an up-to-date publications list and the names and addresses of three referees. These should be sent, no later than 22 April 1994 to Sir Dai Rees, Secretary of the Council, at the above address.
CHAIRMAN OF THE DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS
FINDS OF HEALTH SCIENCES/ THE CHICAGO MEDICAL SCHOOL

Applications and nominations are invited for the Chair of the Department of Physiology and Biophysics. The Chair reports to the Dean of the Medical School and is responsible for recruiting, developing, and maintaining leadership in research and in the education of medical, graduate, and postgraduate students. The candidate should have a knowledge and ability in teaching training, and an international reputation for scientific contributions in physiology, biophysics or closely related fields, and the leadership skills necessary to enhance the department's strength in research, teaching and service.

FUHS/CMS is an 82-year-old private medical school located in a modern facility in a northern suburb of Chicago. The Chair will oversee a faculty of nine doctor-level faculty members with particular strengths in membrane transport, biophysics, endocrinology, and neurobiology.

Applications will be accepted until May 1, 1994, and should include: curriculum vitae, a summary of current research, copies of representative publications, a description of teaching and administrative experience, and the names of three or more references. Send correspondence to: Charles P. Barsano, M.D., Ph.D., Chair of the Search Committee, Faculty of Humanities, 3333 Green Bay Road, North Chicago, IL 60064. (Telephone: 708/587-3300, FAX: 708/587-3320.)

AFACTORY ACTION/Equal Opportunity Employer.

FACULTY SCHOLAR POSITION IN THE DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY
JEFFERSON MEDICAL COLLEGE

The Department of Biochemistry and Molecular Biology of Jefferson Medical College invites applications and nominations for a faculty scholar position to develop and coordinate the curriculum in biochemistry and molecular biology for medical students. Duties will include providing leadership defining topics to be covered, selecting teaching formats, and developing innovative teaching features to provide an intellectually exciting experience for both medical students and over ten faculty members who currently participate in teaching the courses. Duties will also include extensive consultation with faculty at our institution and other institutions in developing and evaluating the courses. Ideal candidates will have a good background in basic sciences, have demonstrated interest and competence in teaching, and a strong interest in current and future applications of the knowledge in these fields to clinical medicine. Applicants with junior and senior level course teaching experience or academic clinicians will be welcome. Position is tenure-track with level of appointment and salary dependent on academic qualifications of the candidate. The candidate should provide (a) a complete curriculum vitae; (b) brief statement of special qualifications he or she may have for the position and (c) at least three letters of recommendation for review. Applications may be consulted further.

Mail to: Dr. Darwin J. Prokop, Chair, Department of Biochemistry and Molecular Biology, Jefferson Medical College, Thomas Jefferson University, 233 South 10th Street, Philadelphia, PA 19107.

Thomas Jefferson University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION
MOLECULAR Virology
THE OHIO STATE UNIVERSITY

Available immediately for up to 3 years. A person with postdoctoral experience is needed to conduct independent research to define the domains of the mouse dwarf mosaic virus (MDMV) genome that determine symptoms and host range. The successful applicant will be expected to prepare DNA clones of MDMV strains; screen obtained full-length DNA clones of MDMV strains; prepare infectious transcripts; identify transcripts that incise different symptoms and host ranges; and determine nucleotide sequences of genomic domains implicated in differential symptoms and host ranges. Send curriculum vitae and three letters of reference to: Dr. Donald G. Gustafson, Department of Plant Pathology, OARDC, The Ohio State University, Wooster, OH 44691. The Ohio State University is an Equal Opportunity/Affirmative Action Employer.

A POSTDOCTORAL POSITION is available for the study of DNA repair impaired in human disease. The focus of this research will be the definition of molecular action of genes correcting repair deficiencies. Experience in laboratory techniques of cell culture, molecular genetics, and nucleotide sequence analysis is desirable. Send curriculum vitae and the names of three references to: Dr. K. Hyatt, Division of Molecular Genetics, L103, Oregon Health Sciences University, 3181 SW Sam Jackson Park Road, Portland, OR 97201-3098. OHSU is an Equal Opportunity/Affirmative Action Employer.

A POSTDOCTORAL POSITION is available to study molecular and cellular mechanisms involved in signalling and regulation of the vascular endothelium. Project will focus on structure/function relationships in G-protein coupling and receptor desensitization. Ongoing research includes analysis of thrombin receptor gene regulation and the involvement of G-protein coupled muscle and platelet. Our is a well-funded laboratory of Ph.D.'s, M.D.'s and M.D./Ph.D. working together to characterize thrombin's role in platelet-vascular interactions. Interested parties should send curriculum vitae and references to: Gerald W. Dorn II, Associate Professor of Medicine/Cardiology and Pharmacology and Cell Biology, University of Cincinnati, Medical Center, 2312 Beethesda Avenue, Cincinnati, OH 45267-0549. FAX: (513) 588-3116. The University of Cincinnati is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION—
VIRAL PROTEASES

A postdoctoral position is available to study the role of viral proteases in cytopathology. The successful candidate will be expected to work with wild-type and mutant forms of HIV protease and determine their preferences for cellular targets as well as study protease inhibition of important cellular inhibitors of the proteases. This is a good chance to work with a multidisciplinary group of enyzmologists, structural and cell biologists and medicinal chemists on an important discovery track. Experience in protein/ or cell biology training is desirable. Send curriculum vitae, statement of research interests and names of three references to: Mary Jeanenne, The DuPont Company, Biotechnology Department, DDS, P.O. Box 80400, Wilmington, DE 19880-0400.

YALE UNIVERSITY
POSTDOCTORAL POSITION

Available to study the use of triplex DNA to produce targeted mutagenesis in mammalian cells. Please send curriculum vitae to: Peter M. Glazer, M.D., Ph.D., Yale University, Department of Molecular Medicine, 295 Congress Avenue, New Haven, CT 06510, or FAX to: (203) 737-2630.

A POSTDOCTORAL POSITION is available immediately in the laboratory of Dr. V. M. Dixit to investigate the mechanism by which cells become resistant to cytochrome k and to identify component(s) of the defense system for gamma-carboxylation. Experience in molecular biology and biochemistry is preferred. Please send/FAX curriculum vitae, list of publications, and references to: J. W. Bolen, Department of Physiology, 2050 West Fifth Avenue, Portland, OR 97201.

HARVARD/POSTDOCTORAL POSITIONS
MOLECULAR BIOLOGY OF PROGRAMMED CELL DEATH

Two positions available in the laboratory of Dr. V. M. Dixit to investigate the mechanism by which cells become resistant to cytochrome k and to identify component(s) of the defense system for gamma-carboxylation. Experience in molecular biology and biochemistry is preferred. Please send/FAX curriculum vitae, list of publications, and references to: J. W. Bolen, Department of Physiology, 2050 West Fifth Avenue, Portland, OR 97201.

HARVARD/POSTDOCTORAL POSITIONS
available to study molecular mechanisms of atherosclerosis and hypertension with special emphasis on transcripitional regulation and biological functions of genes important for growth and differentiation of vascular endothelial and smooth muscle cells (endothelin, HBF-EFG), and a recently cloned novel gene, ASG-1. Experience with molecular biology or protein chemistry is required. Please send curriculum vitae and names of three references to: M. E. Lee, M.D., Ph.D., Cardiovascular Biology Laboratory, Building 2, Room 129B, Harvard School of Public Health, 665 Huntington Avenue, Boston, MA 02115.

A POSTDOCTORAL POSITION is available for the study of DNA repair impaired in human disease. The focus of this research will be the definition of molecular action of genes correcting repair deficiencies. Experience in laboratory techniques of cell culture, molecular genetics, and nucleotide sequence analysis is desirable. Send curriculum vitae and the names of three references to: Dr. K. Hyatt, Division of Molecular Genetics, L103, Oregon Health Sciences University, 3181 SW Sam Jackson Park Road, Portland, OR 97201-3098. OHSU is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION, MYOCARDIAL ENERGY METABOLISM AND VENTRICULAR FUNCTION. Opportunity to study relations between myocardial phosphate and substrate metabolism and cardiac function in intact animal models. Experience in in vivo NMR spectroscopy, coronary physiology, ventricular mechanics, or myocardial substrate metabolism desirable. Send curriculum vitae, statement of research interests, and three references to: Gregory S. Smith, Department of Biophysics, University of California, San Francisco, Cardiology 111C, VA Medical Center, 4150 Clement Street, San Francisco, CA 94121. Equal Opportunity Employer.

POSTDOCTORAL POSITION, MYOCARDIAL ENERGY METABOLISM AND VENTRICULAR FUNCTION. Opportunity to study relations between myocardial oxidative phosphorylation and substrate metabolism and cardiac function in intact animal models. Experience in in vivo NMR spectroscopy, coronary physiology, ventricular mechanics, or myocardial substrate metabolism desirable. Send curriculum vitae, statement of research interests, and three references to: Gregory S. Smith, Department of Biophysics, University of California, San Francisco, Cardiology 111C, VA Medical Center, 4150 Clement Street, San Francisco, CA 94121. Equal Opportunity Employer.
The National Institute on Drug Abuse, a component of the NIH, supports over 300 predoctoral and postdoctoral researchers through individual fellowships and at the 36 training sites highlighted below. For information on these training sites, please contact the program directors. For information on individual awards or general information on NIDA research training programs, contact NIDA at 301/443-6071. Women, the disabled, and members of ethnic groups underrepresented in the health sciences, are especially encouraged to apply.

<table>
<thead>
<tr>
<th>PREDOCTORAL ONLY</th>
<th>POSTDOCTORAL ONLY</th>
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<tbody>
<tr>
<td><strong>Neuropeptides</strong></td>
<td><strong>Human Behavioral</strong></td>
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<tr>
<td>Martin Adler, Ph.D.</td>
<td>Pharmacology</td>
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<tr>
<td>Temple U. Medicine</td>
<td>George Bigelow, Ph.D.</td>
</tr>
<tr>
<td>(215) 221-3242</td>
<td>Johns Hopkins U.</td>
</tr>
<tr>
<td>(215) 221-1904 (fax)</td>
<td>(410) 550-0035</td>
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<td>(410) 550-0300 (fax)</td>
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<tr>
<td><strong>Behavioral Pharmacology, Neuroimmunology, Neurobiology</strong></td>
<td><strong>Behavioral Pharmacology</strong></td>
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<tr>
<td>Linda Dykstra, Ph.D.</td>
<td>Jack Mendelson, M.D.</td>
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<tr>
<td>U. North Carolina</td>
<td>McLean Hospital</td>
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<tr>
<td>(919) 962-6595</td>
<td>(617) 855-2716</td>
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<tr>
<td>(919) 962-2537 (fax)</td>
<td>(617) 855-2159 (fax)</td>
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<tr>
<td><strong>Molecular/Behavioral Pharmacology</strong></td>
<td><strong>Molecular Pharmacology</strong></td>
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<tr>
<td>Carrie Randall, Ph.D.</td>
<td>Charles Charkin, Ph.D.</td>
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<tr>
<td>Medical U. of South Carolina</td>
<td>U. of Washington</td>
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<tr>
<td>(803) 577-5011 Ext 7249</td>
<td>(206) 685-3822 (fax)</td>
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<tr>
<td>(803) 577-9092 (fax)</td>
<td><strong>Maternal Substance Abuse, Molecular Neuropsychopharmacology, Pharmacotherapeutics, Dual Diagnosis</strong></td>
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<td>Carrie Randall, Ph.D.</td>
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<td>(803) 577-9092 (fax)</td>
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<tr>
<td><strong>Pharmacologic/Psychosocial Treatments</strong></td>
<td><strong>Epidemiology &amp; HIV/AIDS</strong></td>
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<td>Richard Schottenfeld, M.D.</td>
<td>Roger Detels, M.D.</td>
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<tr>
<td>Yale U.</td>
<td>UCLA</td>
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<tr>
<td>(203) 789-7282</td>
<td>(310) 206-2837</td>
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<tr>
<td>(203) 789-7349 (fax)</td>
<td>(310) 206-6039 (fax)</td>
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<td><strong>Molecular Biology &amp; AIDS</strong></td>
<td><strong>Pharmacology</strong></td>
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<tr>
<td>Eric Simon, Ph.D.</td>
<td>William Dewey, Ph.D.</td>
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<td>New York U. Medicine</td>
<td>Medical College of Virginia</td>
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<td>(212) 263-5637</td>
<td>(804) 786-0732</td>
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<td>(212) 263-5591 (fax)</td>
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<td><strong>Opioid Neurobiology &amp; Molecular Genetics</strong></td>
<td><strong>Neurology</strong></td>
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<tr>
<td>Stanley Watson, Ph.D., M.D.</td>
<td>Robert Elde, Ph.D. and Virginia S. Seybold, Ph.D.</td>
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<td>U. of Michigan</td>
<td>U. of Minnesota</td>
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<td>(313) 763-3725</td>
<td>(612) 624-9406</td>
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<tr>
<td>(313) 747-4130 (fax)</td>
<td>(612) 624-8118 (Fax)</td>
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<td><strong>PREDOCTORAL &amp; POSTDOCTORAL</strong></td>
<td><strong>Immune Response, AIDS, Brain &amp; Immunity, Infectious Diseases</strong></td>
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<tr>
<td>Epidemiology, Etiology, Treatment &amp; HIV/AIDS</td>
<td>Herman Friedman, Ph.D.</td>
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<td>Douglas Anglin, Ph.D.</td>
<td>U. of South Florida</td>
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<tr>
<td>UCLA</td>
<td>(813) 974-3281</td>
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<td>(310) 825-9057</td>
<td>(813) 974-4151 (fax)</td>
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<tr>
<td>(310) 825-4779 (fax)</td>
<td><strong>Molecular/Cellular Approaches</strong></td>
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<tr>
<td>Epidemiology</td>
<td>Steven Hyman, M.D.</td>
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<tr>
<td>James Anthony, Ph.D.</td>
<td>Harvard Medical School</td>
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<td>The Johns Hopkins U.</td>
<td>(617) 726-5715</td>
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<td>(410) 995-3910</td>
<td>(617) 724-9610 (fax)</td>
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<td>(410) 995-9088 (fax)</td>
<td><strong>Behavioral Pharmacology &amp; Neuroscience</strong></td>
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<td>Warren Bickel, Ph.D.</td>
<td>Charles Inturrisi, Ph.D.</td>
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<td>U. of Vermont</td>
<td>Cornell U. Medical</td>
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<td>(802) 660-3060</td>
<td>(212) 746-6235</td>
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<td>(802) 562-3003 (fax)</td>
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<tr>
<td><strong>Pharmacology &amp; Neuroscience</strong></td>
<td><strong>Behavioral Sciences</strong></td>
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<tr>
<td>Jean Bidlack, Ph.D.</td>
<td>Bruce Johnson, Ph.D.</td>
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<tr>
<td>U. of Rochester</td>
<td>MHRA of NYC/NDRI</td>
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<td>(716) 275-5600</td>
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<tr>
<td>(716) 244-9283 (fax)</td>
<td>(212) 334-8058 (fax)</td>
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<tr>
<td><strong>Genetics</strong></td>
<td><strong>Nursing, Populations at Risk, Prevention, Early Detection</strong></td>
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<tr>
<td>Gerald Mc Clearn, Ph.D.</td>
<td>Shirley Murphy, Ph.D.</td>
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<td>Pennsylvania State U.</td>
<td>U. of Washington</td>
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<td>(814) 865-1428</td>
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<tr>
<td>(814) 865-3282 (fax)</td>
<td>(206) 685-9551 (fax)</td>
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<tr>
<td><strong>Molecular Biology, Neuropharmacology</strong></td>
<td><strong>Psychoneuroimmunology</strong></td>
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<tr>
<td>Eric Nestler, M.D., Ph.D.</td>
<td>Burt Sharp, M.D.</td>
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<tr>
<td>Yale U. Medicine</td>
<td>Minneapolis Medical Research Foundation</td>
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<td>(203) 789-7151</td>
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<td>(203) 562-7079 (fax)</td>
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<tr>
<td><strong>Treatment, HIV</strong></td>
<td><strong>Neurobehavioral Pharmacology</strong></td>
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<td>Charles O'Brien, M.D., Ph.D.</td>
<td>Sheldon Sparber, Ph.D.</td>
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<td>U. of Pennsylvania</td>
<td>U. of Minnesota</td>
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<tr>
<td>(215) 222-3200 Ext 132</td>
<td>(612) 625-5657</td>
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<td>(215) 386-6770 (fax)</td>
<td>(612) 625-8408 (fax)</td>
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**Biomedical**

Andrew Heath, Ph.D. Washington U. (314) 362-9400 (314) 362-9420 (fax)
Boehringer Ingelheim Pharmaceuticals, Inc., a dynamic and growing force in the pharmaceutical industry, seeks a Staff Scientist to participate in research projects in its x-ray crystallography laboratory. For the success-oriented team player, this position offers a research-intensive environment with RAXIS imaging plate detector on a Rigaku RU200 and excellent computing support (EVS, VAXstation 4000-90 and several SGI indigo workstations).

The preferred candidate will offer a B.S. or M.S. in Biochemistry or related field with strong experience in the isolation, purification and crystallization of proteins. Experience with the protein crystallographic technique is desirable.

Boehringer Ingelheim is located on a campus-like setting in a beautiful area of Western Connecticut. Boehringer offers a competitive salary and benefits package including relocation assistance for qualified candidates. To apply, send resume and salary history to: Dept. JC-1S, Boehringer Ingelheim Pharmaceuticals, Inc., 900 Ridgebury Road, Ridgefield, CT 06877-0388. An equal opportunity employer m/f/d/v. As a progressive health care company, we have a non-smoking environment.

THE GLENN FOUNDATION FOR MEDICAL RESEARCH Announces The winner of the 1993 Glenn Foundation Award for significant research in the biology of aging. Dr. Earl Stadtman was honored for his research in defining specific molecular mechanisms that implicate discrete biochemical changes in the loss of physiological function.

The $20,000 award was presented to Dr. Stadtman at The Gerontological Society of America's 46th Annual Scientific Meeting in November of 1993.

The award is funded by the Glenn Foundation for Medical Research in Santa Barbara, California and administered by The Gerontological Society of America. The Society is the national multidisciplinary organization for researchers, educators and practitioners in aging.

The deadline for the 1994 Glenn Award selection process is May 8. For further information, contact: Awards Coordinator, The Gerontological Society of America, 1275 K Street, NW, Suite 350, Washington, DC 20005-4006; (202) 842-1275.

POSTDOCTORAL POSITION IN IMMUNOLOGY

St. Jude Children's Research Hospital

Danny Thomas, Founder
Memphis, Tennessee

A position is available for a recent Ph.D. to pursue research in immune responses toward parainfluenza virus, human immunodeficiency virus and respective vaccines. Send curriculum vitae, names of three references and a brief letter explaining background and career goals to Julia L. Hurwitz, Ph.D., Department of Immunology, St. Jude Children's Research Hospital, 332 No. Lauderdale, Memphis, TN 38105 (Tel. #901-522-0470 or Fax #901-522-8570). An affirmative action/equal opportunity employer. We provide a smoke free environment.

ECOGEN EUROPE s.r.l.

Perugia, Italy

Applications are invited for a Formulations Research Scientist at Ecogen Europe S.r.l. Successful candidates will participate in formulation research and development for biorational products including, insecticidal nematodes, Bacillus thuringiensis (Bt) bioinsecticides, and fungal products for control of plant diseases.

Candidates for this position should have a Ph.D. or M.S. degree in an appropriate field such as chemistry or biology, and/or demonstrated expertise in agricultural formulation. Experience with development of biological (biorational) pesticides is highly desirable.

Ecogen Europe S.r.l. is a partially owned subsidiary of Ecogen Inc., an internationally recognized leader in agricultural biotechnology. Ecogen Europe is located in a state-of-the-art research facility in the beautiful Umbria region of Italy near Perugia, an area rich in cultural and recreational diversity.

We offer a competitive compensation and benefits package and a professional environment. Applicants from EEC member countries are particularly encouraged. For immediate consideration, please submit a comprehensive resume and the names, addresses, and phone numbers of three references to:


ACTIVATED CELL THERAPY, INC.

Employment Opportunity Profile

Activated Cell Therapy, Inc. develops and commercializes living cell therapy services and related products for the treatment of cancer, autoimmune disease and chronic viral infection. Near-term, the company's proprietary technologies will expand markets for restoring immune system function following high-dose chemotherapy or radiation therapy. Activated Cell Therapy will also use its technologies to create new markets for living cell therapies that treat disease by modulating or modifying the immune response.

Scientist

We currently have an opening for a Scientist in our Cellular Immunology Department. The candidate will be instrumental in the development of adoptive immunotherapies for cancer and viral infections. Responsibilities will include working in an interdisciplinary team to study the unique role of dendritic cells in T cell activation using human immune cells.

We are a growing company that offers an excellent compensation and benefits package, along with the opportunity to make a significant impact in the industry. For consideration, please send your resume with a cover letter to: Activated Cell Therapy, Inc. 291 North Bernardo Avenue, Mountain View, California, 94043. Attn: Human Resources.

We are an equal employment opportunity/affirmative action employer.
MOLECULAR ONCOLOGY
RESEARCH SCIENTIST

The Cancer & Infectious Diseases Unit, Upjohn Laboratories Discovery Research, has an opportunity available for a Molecular Oncologist. Responsibilities include:

- Conceiving, planning and implementing research strategies leading to the discovery of novel treatments for human cancers.
- Providing leadership to our cancer research program in the areas of molecular oncology and molecular biology.
- Establishing an independent research laboratory, and collaborating with existing scientific staff.
- Investigating the significant molecular mechanisms of human cancer with creativity, excellence and timeliness.

We seek an individual with a Ph.D., M.D., or M.D./Ph.D. in Molecular Biology, Biochemistry, or related discipline with a minimum of two years of postdoctoral experience and a broad based understanding of cancer biology. The successful candidate must have a strong record of research achievement and publications in the molecular biology of cancer. The candidate must also have a self-sufficient personality and a desire to participate enthusiastically in the translation of contemporary scientific concepts into pharmacologic therapies for clinical development.

In addition to an excellent salary and benefits package, Upjohn Laboratories offers a stimulating, multi-disciplinary research environment at our modern facilities located in Kalamazoo, a southwestern Michigan community located midway between Chicago and Detroit. Our region provides an outstanding mix of cultural and recreational pursuits and a reasonable housing cost market.

For consideration please forward your C.V., referring to posting #03, to: The Upjohn Company, Corporate Recruiting, 7000 Portage Road, Kalamazoo, MI 49001. Equal Opportunity Employer, M/F/D/V.

Washington
WASHINGSTON UNIVERSITY IN ST. LOUIS

Biology & Biomedical Sciences
Graduate and postdoctoral training opportunities in...

**Cell-Cell Interactions**

- **Eric Beyer** - Cell and molecular biology of gap junction-mediated intercellular communication.
- **Eric Brown** - Leukocyte signal transduction.
- **Edmond Crouch** - Extracellular matrix and pulmonary surfactant proteins.
- **Douglas Dean** - Control of cell-cell interactions during development; regulation of the cell cycle.
- **William Frasier** - Structure and function of cell matrix molecules that regulate cell phenotype.
- **Ursula Goodenough** - Signal transduction and control of gene expression in Chlamydomonas.
- **William Parks** - Mechanisms regulating the expression of connexin and proteolytic enzymes.
- **Joseph Sames** - Molecular and cellular analyses of selective synapse formation and neuronal cell lineage.
- **Sam Santoro** - Structure, function and regulation of adhesive protein receptors.
- **Thomas Steinberg** - Roles of membrane receptors and transporters in intercellular communication in macrophages.
- **Steven Tettelbaum** - Osteoclast differentiation and biology.

...and others

Please direct inquiries for postdoctoral training to specific faculty members. For graduate school information, please write to: Biology & Biomedical Sciences, Campus Box 8225, 600 S. Euclid Ave., St. Louis, MO 63110-1093; or call 314-852-9074.
POSTDOCTORAL POSITION available to study molecular aspects of pathogenesis of infection caused by Staphylococcus aureus. This position offers an opportunity to study the mechanisms of glycopeptide-resistant mutants of S. aureus and the role of iron metabolism in experimental staphylococcal infections. Please send curriculum vitae, names and addresses of three references to: Dr. James Webster, The Leukemia Foundation of Michigan, M.D., Professor of Pediatrics, University of Chicago, 5841 South Maryland Avenue, MC6054, Chicago, IL 60637.

HUMAN LINKAGE MAPPING

Two POSTDOCTORAL POSITIONS open June 1, 1994, or soon thereafter to participate in NIH-funded studies on human linkage mapping in the laboratory of Dr. James Webster. This line is a component of one of the official NIH Genome Centers. Gene mapping efforts will be focused on asthma and epilepsy. Improved methods in gene mapping tools and technology, especially automation, will be emphasized. Competitive salary and benefits. Send curriculum vitae and three reference letters by May 15, 1994, to: Human Resources, Employment Generalist, Markey Cancer Center, 756 Blue Hill Avenue, Boston, MA 02135; FAX: 617-277-6061. Women and minorities are encouraged to apply.

MOLECULAR PARASITOLOGY

POSTDOCTORAL POSITION available immediately to study cytokiney gene expression and enzymes in filarial parasites and other nematodes. Molecular biology expertise is required. Experience in eukaryotic cell culture, protein chemistry, and parasite or C. elegans biology preferred. Send or FAX curriculum vitae and names of three references to: Dr. Leon Liu, Beth Israel Hospital, 330 Audubon Avenue, Boston, MA 02215; FAX: 617-277-6061. Women and minorities are encouraged to apply.

POSTDOCTORAL POSITION available immediately in a collaborative project in the laboratories of R. R. Freedman (Psychiatry), J. L. Ram (Physiology), and J. R. Blaustein (Biochemistry) to study normal and cellular and hormonal mechanisms mediating gender differences in cardiovascular function. Research utilizes isolated vascular preparations; cell culture, patch clamp, and mRNA measurements. Candidates experienced in several of these techniques are encouraged to apply. Send curriculum vitae and three letters to: Dr. J. L. Ram, Department of Physiology, Wayne State University, Detroit, MI 48201. Wayne State University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION CHEMICAL AND PHYSICAL SCIENCES

This position in Medicinal Chemistry is a challenging opportunity to contribute to drug discovery as part of a multidisciplinary team. Experience is required in eukaryotic cell culture, protein chemistry, suppression and inflammation. To qualify, you must have a strong background in synthetic organic chemistry and be interested in the design and synthesis of enzyme inhibitors. Send curriculum vitae, statement of research interests and names of three references, to: Mary Jeanette, The DuPont Merck Pharmaceutical Company, Postdoctoral Program, Position #94-WP, P.O. Box 80400, Wilmington, DE 19800–0400.

VISION RESEARCH

POSTDOCTORAL POSITIONS available for closing, expression, and reconstitution of photoreceptor gene product for phospholipase C. Write: Dave McConnell, Department of Biochemistry, Michigan State University, East Lansing, MI 48824. MSU is an Affirmative Action/Equal Opportunity Institution.

POSTDOCTORAL POSITION available immediately to study osmotic and oxygen control of transpiration in yeast. This research involves recombinant DNA techniques, genetics, and fermentation. Candidates should have a Ph.D. in biochemistry or molecular biology and interested in the development of methods for maintaining and growing cells to steady state at very low oxygen levels. Experience in yeast genetics and references to: R. O. Poyton, MCB Biology, University of Colorado, Boulder, CO 80309–0347. Application deadline is April 4, 1994.

POSTDOCTORAL POSITION available immediately in the Department of Neuroscience, University of California, Los Angeles. This position involves the measurement of glycyrophosphate resistant mutants of S. aureus and the role of iron metabolism in experimental staphylococcal infections. Please send curriculum vitae, names and addresses of three references to: Dr. James Webster. University of California, Riverside, CA 92521–0146.

POSTDOCTORAL POSITION available to join a multidisciplinary group investigating macromolecular mechanisms. Some positions involve in vivo analysis of polypeptide GalNAc transferase substrate specificity and requires strong skills in molecular biology and/or glycoprotein characterization. The second position involves the use of O-glycans in the development and requires demonstrated expertise with C. elegans molecular biology. Send curriculum vitae and names of two references to: Dr. Lawrence Tabib, University of Rochester, School of Medicine and Dentistry, Box 611, Rochester, NY 14642; FAX: 716-675-2679. The University of Rochester is an Equal Opportunity/ Affirmative Action Employer.

POSTDOCTORAL POSITIONS IN BIOCHEMISTRY AND MOLECULAR BIOLOGY

Positions are available immediately to study the mechanism of action of specific deoxycytidine-metabolizing enzymes as well as the regulation of their genetic expression in eukaryotes and prokaryotes. Gene isolation and amplification of their protein products will be required. Once obtained, substrate and regulatory sites on the protein products will be determined by functional group specific reagents and affinity labels. In addition, site-specific mutagenesis will be employed to establish the relationship of structure to function in these enzymes. Cloning and sequencing experience desirable. The research will be conducted in a well-equipped core facility. Compensation from Health Research Inc. dependent upon experience. Send resume and three references to: Dr. Frank W. Mady, Wadsworth Center for Laboratories and Research, Empire State Plaza, Box 509, Albany, NY 12201. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION is available for Ph.D. or M.D. to study neuronal signaling via the stress response (heat shock and ultraviolet light) as it relates to reactivation of latent herpes simple virus and regulation of viral gene expression. Experience in molecular biology, virology and preferred. Send curriculum vitae and 3 letters of reference to: Dr. Craig S. Miller, MN118 Chandler Medical Center, University of Kentucky, Lexington, KY 40536–0084. An Equal Opportunity Employer.

POSTDOCTORAL POSITION is available immediately to study the role of FOU/homeodomain genes in the development of the embryonic mouse CNS. Relevant techniques include in situ hybridization, transgenic mice and embryonic stem cell technology. Experience in molecular biology is preferred. Send curriculum vitae, letter, curriculum vitae and addresses and telephone numbers of three references to: Dr. Bryan Crenshaw, Ph.D., Department of Psychology, Genetics and Neuroscience, Cell Biology, Committee on Developmental Biology, Genetics and Neurobiology, MC1027, 5841 South Maryland Avenue, The University of Chicago, Chicago, IL 60637. Call: (312) 702-2118; FAX: (312) 702-9194.

POSTDOCTORAL POSITION—RHONE-POULENC RORER, a global leader in pharmaceutical research, has a postdoctoral position immediately available to develop innovative in vitro techniques for discovery drug metabolism studies. Candidate will participate in and expand from current emphasis on human hepatic cytochrome P450 characterization to CNS, pulmonary, and GI metabolism. Enzyme assay and chromatography experience required. Cell culture/protein biochemistry experience preferred. RHONE-POULENC RORER offers a highly competitive salary, a challenging professional work environment and opportunities for continued growth. For immediate consideration, resume with salary history: to Human Resources—Mail Stop H15, RHONE-POULENC RORER, 500 Arcola Road, Collegeville, PA 19426. We are an Equal Opportunity Employer, M/F/D/V.

POSTDOCTORAL POSITIONS available immediately for studies of cell regulation by Ras-related GTP-binding proteins. Possible projects involve NADPH oxidase, ras-related protein regulation by Rac/Rho, lipid/protein kinase regulation by Rac/Rho, and extensions of these studies into cells of the immune system. I am looking for motivated and dedicated individuals with strong backgrounds in molecular/cellular biology and/or biochemistry. Experience with microcinematography is sought. Contact: Gary M. Bokoch, Ph.D., IMM, 100 West Oak Park Avenue, Oak Park, IL 60302; FAX: 503-339-4547. Applications will be considered as received. Send application with salary history and three references.

POSTDOCTORAL FELLOW ATHEROSCLEROSIS RESEARCH

Position available for study of the role of cholesterol metabolism in experimental primate atherosclerosis, with emphasis on the role of hepatic lipase and its enzymatic properties. Responsible for regulation of whole body cholesterol homeostasis. Familiarity with molecular biology and biochemistry desirable. First year fellowship starts at $20,000 with appropriate adjustments for experience level. Dr. Lawrence Rudel, Department of Comparative Medicine, Bowman Gray School of Medicine of Wake Forest University, Winston-Salem, NC 27187. Affirmative Action/Equal Opportunity Employer.

THREE-YEAR POSTDOCTORAL FELLOWSHIP AT THE SMITHSONIAN TROPICAL RESEARCH INSTITUTE

The Smithsonian Tropical Research Institute (STRI), a bureau of the Smithsonian Institution in the Republic of Panama, invites applications for a 3-year postdoctoral fellowship for research based at one of the Institute’s facilities. Disciplines may include ecology, anthropology, paleontology, evolution, behavior and physiology of tropical plants or animals. Proposals that include comparative research in other tropical countries will be considered.

Proposals should include a research proposal (less than 10 pages), curriculum vitae, two letters of reference, names and telephone numbers of three additional references and reprints of most important papers. Application deadline is February 10, 1994. Send application to: C. Rayden, Smithsonian Tropical Research Institute, U.S. Embassy, 25 Shattuck Street, Boston, MA 02115. An Equal Opportunity Employer.

Awards are based upon merit, without regard to race, color, religion, sex, national origin, age or condition of handicap of the applicant.
CytRx Corporation is a research-based pharmaceutical company pioneering the development of critical care therapeutics based on agents which alter surface characteristics of cells and molecules. Our diversified product pipeline includes potential treatments for cancer, vascular & infectious diseases, and burns.

Our unique niche has resulted in our rapid growth and impressive success. Well-capitalized and poised for growth into new areas of biopharmaceuticals, we are seeking to add to our talented scientific staff. Our goal, by mid-year, is to have 80% of our personnel dedicated to R&D.

Our scientists and technical professionals enjoy a highly competitive salary, excellent benefits, stock options and a dynamic environment that fosters achievement. Our brand new 20,000 square foot research facility is located in a beautiful suburban location with a low cost of living, excellent school system and an exceptional quality of life just outside the cosmopolitan city of Atlanta, home of the 1996 Olympics.

For confidential consideration please mail or fax your resume to: C.V., for CytRx Corporation, 134 Technology Parkway, Norcross, GA 30092. Fax: (404) 448-3857. An Equal Opportunity Employer.

**Pharmaceutical**

**INNOVATIVE TECHNOLOGY**

**DIRECTOR, PRECLINICAL DEVELOPMENT**

This position oversees a team of 3-5 scientists responsible for all preclinical safety/disposition and toxicology studies. A PhD in Pharmacology or Toxicology plus 7-10 years' experience reflecting knowledge of FDA regulations, GLPS, and matrix management systems.

**ASSISTANT DIRECTOR, POLYMER CHEMISTRY**

You'll guide a diverse experienced team of scientists in polymer research, including polymer synthesis, characterization, and method development. A PhD in Polymer, Organic, or Synthetic Chemistry with 5-7 years' experience are needed. Knowledge of cGMP document preparation and radio-labeled chemicals.

**SENIOR SCIENTIST TOXICOLOGIST**

Major duties include designing/implementing GLP toxicology/safety studies for INDs. You must have 5-6 years' related experience and a PhD in Toxicology, Pharmacology, or related scientific discipline.

**SENIOR SCIENTIST, CELL BIOLOGY**

Initiate studies to understand the mechanism of action of compounds using human cell systems. Perform metabolism studies necessary for preclinical evaluations of active compounds. A PhD in Cell Biology or Pharmacology with 2-5 years' hands-on experience with tissue culture techniques, cell lines, macromolecule, and assays.

**IMMUNOLOGIST**

Cincinnati, OH

Marion Merrell Dow Research Institute is seeking an individual to participate in a program examining the regulation of T cell activation in autoimmune diseases. A Bachelor's or Master's in Immunology and expertise in tissue culture, enzyme immunoassays, western and northern blotting, kinase assays, and in vitro models of autoimmunity are essential. Prior experience in molecular biology is preferred.

Marion Merrell Dow Research Institute is committed to many areas of drug research including immunology, respiratory, oncology, metabolic, ion channel and transporter research, and cerebrovascular and acute neurological disorders. We offer excellent compensation including 401(k) and stock options. You will also find an affordable yet cosmopolitan lifestyle in Cincinnati. For consideration, send resume with 2-3 references and salary history to: Marion Merrell Dow Inc., Human Resources Department/Research Staffing, 2110 East Galbraith Road, Cincinnati, OH 45215 (Please indicate Job Code: IMMUN).

**MARTON MERRELL DOW INC.**

An Equal Opportunity Employer

**Laboratory**

Regeneron Pharmaceuticals, Inc. is committed to the discovery and development of therapeutic pharmaceuticals for degenerative and traumatic nerve disorders. Immediate opportunity now exists within our Discovery group for an experienced scientist.

You will work as part of a team focused on the identification/characterization of novel neuronal survival/growth factors. A recent Ph.D. or a B.S.M.S. in a scientific discipline is required, together with at least 3 years' relevant experience. Strong knowledge of protein chemistry, experience in receptor/ligand interactions, microtubule HPLC, protein sequencing, mass spectrometry, protein expression, electrophoresis and tissue culture are essential.

Regeneron is situated on an expansive wooded campus near Tarrytown, in Westchester County, 25 miles north of New York City. To find out more about our supportive team setting and the impact you can make, please send detailed resume with salary history to: Human Resources, Dept., Bin GC, Regeneron Pharmaceuticals, Inc., 777 Old Saw Mill River Road, Tarrytown, N.Y. 10591-6707. Equal Opportunity Employer.

**Regeneron Pharmaceuticals, Inc.**

**American Association**

**for the Advancement of**

**Science**

**1994 Mentor Awards**

**Call for Nominations**

**Lifetime Mentor Award (10 or more years)**

**Mentor Award (less than 10 years)**

The American Association for the Advancement of Science (AAAS) invites nominations for the 1994 Mentor Awards. The two categories are Lifetime Mentor Award and Mentor Award. These annual awards honor individuals who, during their careers, demonstrate extraordinary leadership to increase the participation of women of all racial/ethnic groups; African American, American Indian, and Hispanic men; and/or people with disabilities in science and engineering fields and careers.

A prize of $5,000 and a commemorative plaque for the Lifetime Mentor Award will recognize an individual who has mentored and guided significant numbers of students from these underrepresented groups to the completion of doctoral studies and/or who has impacted the climate of a department, college, or institution to significantly increase the diversity of students pursuing and completing doctoral studies. This individual will have served in such a role for 10 years or longer.

The Mentor Award, a prize of $2,500 and a commemorative plaque, will recognize an individual who has mentored a significant number of students over a period of less than 10 years.

Such commitment and extraordinary effort may be demonstrated by:

- the number and diversity of students mentored,
- assisting students to present and publish their work, to find financial aid, and to provide career guidance,
- providing psychological support, encouragement, and essential strategies for life in the scholarly community,
- continued interest in the individual's professional advancement.

The AAAS Mentor Awards are administered by the Committee on Opportunities in Science (COOS).

**Deadline for the 1994 Mentor Awards nominations is 1 August 1994.**

The 1994 Awards will be presented during the Association's Annual Meeting in Atlanta, Georgia in February 1995.

For additional information concerning the awards, please contact Paula Lee or Yolanda George at (202) 326-6670.
Sr. Hematopathologist: Appointment at Associate Professor/Professor level. Must have extensive experience in all aspects of hematopathology and training in molecular diagnostics. AP boards and eligibility for NYS license.

Jr. Hematopathologist(s): Requires both clinical and laboratory training and independent research potential. BC/BE in AP. Unique opportunity to develop research programs in oncogenetics in association with outstanding molecular oncology group.

Anatomic Pathologist(s): Assistant Professor positions require strong diagnostic skills, evidence of research ability. Must be BC/BE in AP.

Cyto geneticist: M.D. or Ph.D. with NYS laboratory director's license and expertise in tumor cytogenetics. Must have strong research/publication background. Appointment at senior level possible.

Molecular Diagnostics: M.D. or Ph.D. for service-oriented position in application of molecular methods to diagnostics. Must be capable of organizing a high-volume laboratory. Responsible for QA/QC and regulatory affairs.

Applications together with the names of three references should be sent to: Search Committee c/o Jean Douglas-Betancourt, Department of Pathology, P&S 15-402, College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032.

Columbia University is an affirmative action/equal opportunity employer. Applications from women and members of minority groups are actively encouraged.

For consideration, please send your resume to: SEARLE COMPANY, BB56-EM; 700 Chesterfield Village Pkwy; St. Louis, MO 63198. Equal Opportunity Employer M/F/D/V.

SEARLE
On track to being on top.

BIOLOGY TRAINING COURSE IN ANTARCTICA (2nd YEAR)
"Biological Adaptations of Antarctic Marine Organisms"

This National Science Foundation sponsored course will be held at McMurdo Station (Antarctica) in the new science center (46,000 sq. ft.) from January 4, 1995 to February 4, 1995. The emphasis of the course will be on experimental antarctic biology with exposure to field collection operations. The specific themes for the 1995 course are: (i) Evolution of Structure-Function in Cold Adapted Proteins and Biology of Antarctic Strains of Fishes (Art DeVries, Univ. of Chicago); (ii) Molecular Evolution and UV-photobiology of Antarctic Algae (Lynda Goff, Univ. of California, Santa Cruz, and Daniel Karlert, Univ. of California, San Diego); (iii) Comparative Studies of Protein and Membrane Adaptations to Cold in Marine Invertebrates and Fish (Gluck Somero, Oregon State University); (iv) Physiology and Biochemistry of Larval Development of Antarctic Marine Invertebrates (Donal Manahan, Univ. Southern California).

This is an international course, open to all nationalities. Applicants are invited from graduate students, postdoctoral fellows, and other research scientists who are interested in an introduction to antarctic biology, or from individuals who have worked in Antarctica before and wish to develop new approaches and techniques. The 1995 course will be limited to 16 students. Full scholarships are available to each student accepted into the course to cover the cost of travel from home institution to Antarctica and room and board while in Antarctica. Deadline for completed applications at Antarctic Support Associates is May 31, 1994. To obtain an application form write to: Director, Science Support, Attn: McMurdo Biology Course, Antarctic Support Associates, 61 Inverness Drive East, Suite 300, Englewood, Colorado 80112, USA (Phone 303-790-8606; FAX 303-790-9130).
**Albert B. Alkek**  
Institute of Biosciences & Technology  
Texas A&M University

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**Allen Chair and Director**  
Center For Cellular And Molecular Nutrition

The Center For Cellular And Molecular Nutrition will be housed in a new 11-story research tower located in the Texas Medical Center, Houston, and will join existing groups in genomic research, extracellular matrix biology, cancer biology, mammalian virology and bioinformatics which foster research linking cell and molecular sciences with medicine and agriculture.

**The Center Director**

will hold a tenured appointment in an academic department at Texas A&M University, College Station, TX. Applicants should have a record of accomplishments in cell, molecular and/or developmental biology and have an interest in bridging research in these areas to animal and human nutrition. Applicants working in membrane biology, hormone/cytokine and receptor mechanisms, signal transduction, gene regulation or genetics are especially encouraged to apply. The position offers a special opportunity to define and develop frontiers in nutritional sciences while interacting with established groups in the Texas Medical Center and Texas A&M University.

Interested individuals should send a letter, curriculum vitae and names of persons who may be contacted as references to:

Dr. Wallace L. McKeehan, Chair, Search Committee, Dept. ACD-SM4194, Institute of Biosciences & Technology, Texas A&M University, 2121 W. Holcombe Blvd., Houston, TX 77030-3303.

The Texas A&M University System is an affirmative action/equal opportunity employer.

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**Tenure-Track Faculty Positions**  
Center For Cancer Biology

The Center For Cancer Biology is housed in a new 11-story research tower located in the Texas Medical Center, Houston, TX, together with groups in genomic research, extracellular matrix biology, mammalian virology and bioinformatics. The Institute fosters research in cell and molecular sciences bridging medicine and agriculture by interaction with programs in the Texas Medical Center and the Texas A&M system. The Center focuses on molecular signaling mechanisms from the extracellular environment to the nucleus.

**Applications**

will be considered for tenure-track positions at the Assistant or Associate Professor levels. Appointments will be in an academic department at Texas A&M University. College Station, TX. Applicants must have a Ph.D or M.D. degree, exhibit research contributions in cell, molecular and/or developmental biology and have potential to develop an independent research program related to cancer biology. One position will focus at the membrane level, another between membrane and nucleus and another at the nuclear gene regulation level. Applicants with programs in developmental biology and/or employing transgenic technologies are especially encouraged to apply.

**Response**

Interested individuals should send a letter and curriculum vitae, and have three letters of reference sent to: Dr. Wallace L. McKeehan, c/o W. R. Alley, Dept.CB-SM4194, Institute of Biosciences & Technology, Texas A&M University, 2121 W. Holcombe Blvd., Houston, TX 77030-3303. The Texas A&M University System is an affirmative action/equal opportunity employer.
POSTDOCTORAL POSITIONS to study leukocyte motility in the nervous system. Available now or spring 1994. Short or brief specific description of relevant experience and basis for interest. Reply to: Dr. L. Lampson, Laboratory of CNS Immunology and Tumor Biology, Neurology-MLCR 116, Brigham and Women's Hospital, Boston, MA 02115. Please indicate fellowships for which you are eligible.

POSTDOCTORAL POSITION available to study developmental genetics, regeneration and dedifferentiation using the planarian Dugesia tigrina as a model. Experience in molecular biology required, cell culture and transgenic animals helpful. Send curriculum vitae and 3 letters of recommendation to: Dr. G. Shima, LOUISIANA STATE UNIVERSITY Medical Center, University of Texas Health Science Center at Houston, P.O. Box 20334, Houston, TX 77225. (FAX: 713-792-4615) The University of Texas is an Equal Opportunity Employer and encourages the application of women and minorities.

POSTDOCTORAL POSITION

Molecular Biologist/Biochemist to study the intracellular assembly of glycosphingolipid (GPI) anchor containing human disease. Experience in cloning of genes, transcriptional regulation, and chemical analyses of intermediates. Contact: M. Edward Medof, Institute of Pathology, GPI-anchor Group, Case Western Reserve University, 2085 Adelbert Road, Cleveland, OH 44106. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP available immediately to clone, identify, and study the regulation of genes induced by ionizing radiation in mammalian cells. Applicants should hold a Ph.D. in molecular biology or biochemistry and have experience with cloning and ligase assays. Send curriculum vitae, statement of research interests and three letters of reference to: Dr. Jean-Numa Lapeyre, Associate Director, Experimental Radiotherapy Box 66, University of Texas M.D. Anderson Cancer Center, Houston, TX 77030; FAX: (713) 794-5369. Equal Opportunity/Affirmative Action Employer. Smoke-free environment.

POSTDOCTORAL FELLOWSHIP—NEUROSCIENCE

The Neurosciences Unit at the Loeb Research Institute, Ottawa Civic Hospital and University of Ottawa, has an immediate opening for a cellular electrophysiologist to study signal transduction in CNS neurons. Requires M.D. or Ph.D. degree, and experience with in vitro preparations and patch clamp recording techniques. The Neurosciences Program includes 8 Ph.D. students with expertise in molecular and cellular neurobiology applied to excitotoxicity, membra traffic, signal transduction, ion channel functions, post-ischmic neuronal function and survival. The position is for an MRC-funded project focused on the neuropharmacology and pharmacology of hypotalamic and forebrain neurons regulating pituitary secretion and cardiovascular homeostasis. Salary range $28,650 to $34,500. Send or FAX: (613-761-5360) curriculum vitae, a short statement of interests and names of 3 references to: Dr. Leo Renaud, Neurology Division, Ottawa Civic Hospital, 1053 Carling Avenue, Ottawa, Ontario, CANADA K1Y 4E9.

POSTDOCTORAL FELLOWSHIP

Neuroendocrinologist/Immunologist to study influence of neuroendocrine system on cell-mediated immune responses to infectious microorganisms. Fellow will join an active team of Immunologists and Cellular Biologists investigating host-parasite interactions with an emphasis on cellular immunity in well-established model systems. Position is immediately available and is funded through a national research training program. Applicants must have U.S. citizenship or permanent residency. Candidates should send curriculum vitae and three letters of recommendation to: Dr. Thomas Jerrells, Department of Cellular Biology, University of Connecticut Health Center, University of Texas Medical Center, P.O. Box 33932, Shreveport, LA 71130. An Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP

APOPTOSIS—SIGNAL TRANSDUCTION

This program focuses on novel approaches to the modulation of drug-induced apoptosis in human leukemia and neuroblastoma cell lines and the molecular mechanisms involved in the regulation of signal transduction events. There are extensive opportunities to interact with a diverse faculty of cellular and molecular biologists in the Massey Cancer Center and to utilize the center's extensive core laboratory facilities. Candidates should have a strong interest in signal transduction; prior molecular biology experience is preferred. The position is supported by an NCI-funded Postdoctoral Cancer Biology Training Grant. Send curriculum vitae and letters of reference to: Dr. Steven Grant, M.D., Medical College of Virginia, MCV Station Box 230, Richmond, VA 23298. MCV/VCU is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

POSTDOCTORAL FELLOWSHIPS at Harvard Medical School in gene therapy and HIV pathobiology. Facilities include dedicated and fully equipped laboratories for molecular biology and biochemistry; large dedicated P3 facility; and ready access to several animal models systems.

Funding available for three years, fully commensurate with experience. Qualified applicants should have some prior experience in molecular biology, virology, or hematology. Interested candidates should send a letter of recommendation to: Ernest F. Terwilliger, Ph.D., New England Deaconess Hospital, 194 Pilgrim Road, CRI-5, Boston, MA 02215.

University of Pittsburgh

Pittsburgh Transplantation Institute

POSTDOCTORAL FELLOWSHIP

Postdoctoral position available immediately for Ph.D. in immunology or molecular biology to participate in studies on the role of antigen presenting cells in organ transplant rejection/tolerance induction. This is an apical 9-month position in the excellent, new, purpose-built research laboratories of the Pittsburgh Transplantation Institute, and should have a strong interest in the cellular and molecular basis of lymphocyte activation. The annual salary will be approximately $27,000. Please submit curriculum vitae and three letters of reference to: Angus W. Thomson, D.Sc., F.R.C. Path. 1625 Fifth Ave., Pittsburgh Biomedical Sciences Building, Pittsburgh, University of Pittsburgh Medical Center, Pittsburgh, PA 15213, USA. FAX: (412) 624-1172, Telephone: (412) 624-1116.


POSTDOCTORAL FELLOWSHIP available immediately at the Center for Advanced Research in Biotechnology (CARB) at the National Institutes of Health. CARB offers a recent Ph.D. to join a multidisciplinary team investigating molecular basis of antigen recognition by antibodies and T-cells receptors (TcR). Project involves (1) study of antibody specificity and application of site-directed mutagenesis and phage display to antibodies of known 3-D structure; (2) expression of recombinant proteins for X-ray crystallography; (3) binding studies of recombinant TcRs to T-dependent ligands. Experience in heterologous protein expression in bacterial or mammalian cells is essential. Return curriculum vitae and names of three references to: Dr. Roy Martzuka, CARB, 9600 Gudeport Sky Drive, Rockville, MD 20850; FAX: (301) 738-6255.

POSTDOCTORAL/RESEARCH ASSOCIATE. Two NIH-funded positions are immediately available to study transcriptional regulation of antigens involved in cardiovascular diseases. Experience in molecular biology or yeast genetics desirable. Positions are for up to 5 years. Please send curriculum vitae and reference letters to: Dr. Kamal M. Medof, Department of Pathology & Molecular Biology, Slot 516, University of Arkansas College of Medicine, 4301 West Markham, Little Rock, AR 72205. FAX: (501) 686-8169.

A POSTDOCTORAL RESEARCH POSITION is available to study the regulation and role of protein tyrosine kinases and protein tyrosine phosphatases in the brain. Ph.D./M.D. with strong background in biochemistry/molecular biology and/or neurobiology are preferred. Please submit curriculum vitae and names of three references to: Shalom Avraham, M.D., Ph.D., and Jerome E. Groopman, M.D., Division of Hematology/Oncology, Harvard Medical School, New England Deaconess Hospital, 185 Pilgrim Road, Boston, MA 02215. (FAX: 617-424-6237).

POSTDOCTORAL RESEARCH POSITION

A postdoctoral position is available immediately to study insect membrane receptors for the insecticidal protein of Bacillus thuringiensis. The project includes the cloning, characterization of membrane receptors as well as characterization of insecticidal protein/membrane receptor complexes. Interested candidates should have a Ph.D. with strong background in molecular biology and biochemistry. Applicants should submit curriculum vitae and names of three references to: Dr. Lee Bulla, Department of Molecular Biology, University of Wyoming, P.O. Box 3944, University Station, Laramie, WY 82071–3944. Telephone: 307-766-3300; FAX: 307-766-5098.

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

RESEARCH ASSOCIATE for university in central Okla. for work with microarrays in regulation of the glycoside receptor, Na,K-ATPase, at molecular levels, including characterization of encoding genes and cDNAs using enzymatic and immunochemical assays after gene transfer in cells. Requires M.S. in biological health sciences, or five-year M.D., and two years of experience in above-described duties or in Na,K-ATPase regulation using monoclonal antibody, recombinant DNA techniques (gene cloning, sequencing and mutagenesis), primary skeletal and cardiac tissue culture, DNA-fragmentation, microinjection, voltage clamp and in vitro transcription and translation. Forty hours per week, 8:00 a.m. to 5:00 p.m. Monday to Friday, $24,000 per year. Send resume in duplicate (no calls to): J. Davies, T005340, Department of Environmental Services, P.O. Box 1618, Columbus, OH 43216.

RESEARCH ASSOCIATES

(1) To study neuromuscular development and the effect of the nerve on the expression of muscle specific genes. (2) To study gene therapy using myoblasts as vectors. Applicants should have a Ph.D. in one of the Biological Sciences and research experience in immunocytochemistry or molecular biology; research experience in muscle biology would be helpful. Reply with curriculum vitae to: Dr. Maria C. Oono, Department of Cell Biology and Physiology, University of Pittsburgh School of Medicine, 3550 Terrace Street, Pittsburgh, PA 15261. Applicants are encouraged to submit a letter stating interest.

MICROBIOLOGIST

The Foreign Animal Disease Diagnostic Laboratory, USDA, Animal Health Service, is recruiting for a microbiologist with experience in all standard molecular biological techniques of nucleic acid and protein extraction, microinjection, gene and protein amplification and sequencing. Experience in protein expression and familiarity with animal viruses is desirable. Minimal educational requirement is a Bachelor's degree in the biological or chemical sciences, Master's degree preferred. Must be a U.S. citizen. Starting salary is $24,554/$30,012 per year. For additional information contact: Dr. Robert E. Meyer at (513) 233-2800, extension 388 or 256. THE FEDERAL GOVERNMENT IS AN EQUAL OPPORTUNITY EMPLOYER.
The Center for Tropical Diseases of the University of Texas Medical Branch (UTMB) at Galveston invites applications for a rewarding tenure-track faculty position in research. Applicants should have a Ph.D. or M.D. degree and a minimum of two years postdoctoral research experience. A number of positions are being established ranging in faculty rank from Assistant Professor to full Professor. The Center is seeking individuals with a strong record of scientific achievement and one with a research interest in HIV and/or HTLV-I pathogenesis or AIDS. Expertise in the areas of molecular biology and/or biochemistry are essential. Duties will include developing and maintaining a strong independent research program, interacting with other faculty investigating the pathobiology and immunobiology of other retroviruses, seeking extramural funding, and participating in medical and graduate education. This appointment will also include membership in UTMB’s Retrovirus Research Program which provides resources and other faculty with whom to interact. UTMB employs more than 9,100 people and consists of four schools, seven hospitals and two research institutes. The Center for Tropical Diseases under the auspices of the Department of Pathology, includes both clinical and basic scientists. Interested applicants should send a detailed curriculum vitae, an outline of current and future research interests, recent reprints, and three letters of reference to: David H. Walker, M.D., Director, Center for Tropical Diseases, The University of Texas Medical Branch, 301 University Blvd., Galveston, TX 77555-0609. UTMB is an equal opportunity affirmative action employer M/F/D/V. UTMB is a smoke-free/drug-free work place. UTMB hires only individuals authorized to work in the U.S.

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Driving The Creation Of Powerful Solutions

Sr. Research Scientist - Protein Chemistry

In this key position, you will be a major contributor to the scientific direction of the protein chemistry group and will supervise junior staff members. You’ll design and implement protocols for the purification of native and/or recombinant allergens as well as scale-up designed protocols and transfer technology to the process development group. Additionally, you’ll establish a series of analytical techniques for the evaluation of purified allergens and will demonstrate purity and reproducibility of developed procedures. Requires a Ph.D. and a minimum of 10 years of experience in protein chemistry or a related discipline. Excellent communication and organization skills are essential. Industrial experience strongly preferred. Dept. PC.

Our steady progress has established us as a dynamic and rapidly expanding biopharmaceutical leader: our key industry partnerships and first-rate team of scientific professionals are taking us even further. We offer exceptional opportunities for growth, support for your career development, and rewards that include a competitive compensation and benefits package. Please send your CV, referencing the department, to: Human Resources Department, ImmunoLogic Pharmaceutical Corporation, 610 Lincoln Street, Waldbaum, MA 02154. An equal opportunity employer. Principals.

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North American Vaccine, Inc., a rapidly expanding company dedicated to the research, development and manufacturing of vaccines, has immediate openings for scientists within our Research Group.

**Protein Chemist**

Candidates should possess a Ph.D. in biochemistry or chemistry and be knowledgeable in all aspects of protein isolation and characterization. 2-4 years of postdoctoral experience in protein chemistry is essential.

Future openings may also be available for individuals with a Ph.D. in Microbiology, Virology or related field for the generation of mutant virus species for potential use in vaccines.

We are located in Beltsville, Maryland 20 minutes north of Washington, DC. We offer competitive salaries and benefits.

Excellent verbal and written communication skills are required for all positions. Interested individuals should send a curriculum vitae to:

**Manager, Human Resources**

NORTH AMERICAN VACCINE, INC.

c/o AMVAX, Inc.

12103 Indian Creek Court
Beltsville, MD 20705-4223

Fax: (301) 470-6198

EOE/AA

Please stop by to see us at the Biotechnology/Pharmaceutical Job Fair in Chevy Chase, Maryland on May 13 and 14.

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**DIRECTOR, MOLECULAR BIOLOGY**

MICROBIOLOGICAL ASSOCIATES (MA) is a leading international provider of biological and toxicological testing services to the pharmaceutical, personal care and biotechnology industries. Our company's rapid growth has created an opportunity for an experienced manager to join our technical staff and direct MA's molecular biology development activities.

The Director of Molecular Biology will direct MA's molecular biology development efforts and support our commercial GLP / cGMP molecular biology testing operations. The successful candidate will have a proven track record in molecular virology, toxicology, oncology, cell biology or mammalian cell systems.

An individual with a Ph.D. and 5+ years laboratory management experience would be an ideal fit for this position.

For immediate consideration, please forward your C.V. or resume to the attention of Human Resources:

MICROBIOLOGICAL ASSOCIATES

9900 Blackwell Road

Rockville, Maryland 20850

EOE m/f/d/v
Quality... At the Heart of What We Do.

North American Biologicals, Inc. (NABI), is a world leader in source plasma collection/supply and diagnostic technology, maintaining both large-volume lab and diagnostic manufacturing facilities, and now our new Immunotherapeutics Manufacturing Division.

Bioprocessing Technicians

Responsibilities include purification of gamma globulin from human plasma by alcohol fractionation, chromatographic purification of antibodies, sterile filtration, and serum processing.

A Biological Science degree with a minimum of 2 years biological manufacturing experience under GMP is required. Must be competent in the operation of basic manufacturing equipment including PH meters, centrifuges, balances, filtration equipment and have an understanding of aseptic technique.

One of these positions is an excellent opportunity for a Senior Bioprocessing Technician. We're seeking a highly motivated individual with excellent fractionation skills and knowledge of GMP and FDA regulations to participate in the development and growth of our Immunotherapy Division. In addition to the above requirements, a minimum of 2 years experience in plasma fractionation and antibody purification at production scale is required. Must have extensive "hands on" experience in alcohol (Cohn) fractionation of plasma, and competency in the operation of all associated process scale equipment.

NABI will provide an outstanding, professional working environment, a very competitive salary and generous benefits package. Please forward your resume with salary history to:

Director, Human Resources
North American Biologicals, Inc.
P.O. Box 692222
Miami, FL 33289

An Equal Opportunity Employer M/F/DV

GENENCOR INTERNATIONAL, a world leader in the use of biotechnology for research, development and manufacture of industrial enzymes and fine specialty chemicals has two immediate openings in the SAN FRANCISCO BAY AREA.

SCIENTIST

Biochemist with expertise in purification and characterization of proteins from natural and recombinant sources at the research and production scale, working on an aggressive protein engineering project directed at novel enzyme activities. The incumbent will have a PhD in Chemistry/Biochemistry or Chemical Engineering, at least two years of post doctoral experience, and a track record of excellence in laboratory work. Knowledge of peptide chemistry, protein sequencing, and separation technology would be an asset. (Dept. CP)

POSTDOCTORAL FELLOW

In this position, you will work on the engineering of enzymes and enzyme complex through molecular biology techniques. The research will focus on the design, construction, evaluation, as well as the application of the engineered enzyme complex. The successful candidate must have a doctorate degree in a Biology or Chemistry discipline with interest in molecular biology, protein structure, and enzymology. (Dept. CP)

We offer a challenging and rewarding work environment, combined with a competitive compensation and benefits package. To apply, please send or FAX your resume, indicating the appropriate department code, to: GENENCOR International, Inc., Attn: HR Department-S, 180 Kimball Way, South San Francisco, CA 94080, FAX: (415) 583-8269. EOE M/F/DV. Women and minorities are encouraged to apply.

Mammalian Geneticist

Unique opportunity to participate in the expansion of McLaughlin Research Institute, a small mammalian genetics center in Great Falls, Montana. The Institute offers a non-bureaucratic, interactive research environment and participation in the Institute's future development. We have recently moved into a new research building with a large mouse facility. Applicants should have an NIH-supported research program, or be highly motivated to obtain independent support. Developmental biologists, molecular geneticists, and neurogeneticists whose research emphasizes mouse models are particularly encouraged to apply.

Applications, including names of individuals we may contact for references, should be addressed to:

George A. Carlson, Ph.D.
Director, McLaughlin Research Institute
1520 23rd Street South
Great Falls, MT 59405

For additional information contact George Carlson, Bill Crain or Doug Coffin at MRI, or any of the following members of our Scientific Advisory Committee: Irv Weissman, David Baltimore, David Cameron, Bruce Chesebro, Neil Copeland, Jeff Frelinger, Leroy Hood, or Nancy Jenkins.

An Equal Opportunity/Affirmative Action Employer

DEPUTY DIRECTOR AAAS, PROJECT 2061

Project 2061 is a long-term reform initiative of the American Association for the Advancement of Science (AAAS) to reform K-12 education nationwide so that all high-school graduates are science literate. We are seeking an experienced Deputy Director to coordinate the integration of Dissemination, Curriculum Development, Research and Evaluation, and Implementation activities of Project 2061, serving as Acting Director during Director's absence.

Individual will represent and speak on behalf of Project 2061 at professional meetings, conferences, special presentations and other events; participate in special research, dissemination, curriculum development and implementation projects; provide overall direction and supervision to all fiscal and administrative operations related to Project 2061; participate in efforts to identify and secure external grants and/or contracts to support activities of Project 2061; serve as principal negotiator on terms and specifications of contracts, grants, and/or other agreements between the Project and potential funding sources; maintain his/her own research interests and activities through development of papers, articles, speeches, and/or other scholarly materials.

Position requires a doctoral degree in education, a scientific discipline, or related field(s); 10-15 years related work experience (education, research and development at a college, university, government agency, professional association or related group); specific experience managing multi-year projects with multiple staff and funded by an external agency, including securing support from those agencies. Documented record of scholarly publishing, in professional journals or other publications in the appropriate field(s).

For immediate consideration send resume and cover letter with salary requirements to the AAAS, Human Resources Dept. at: 9D-902, 1333 H St., N.W. #128, Wash., D.C. 20005. The AAAS is an equal opportunity employer and has a non-smoking work environment.
U.S. EPA OFFICE OF RESEARCH AND DEVELOPMENT
DERMAL EXPOSURE AND ABSORPTION OF TOXIC SUBSTANCES

The Environmental Protection Agency's Office of Health and Environmental Assessment (OHEA) in Washington, DC and the Environmental Monitoring Systems Laboratory, in Las Vegas NV (EMSL-LV) of the Office of Research and Development (ORD) are seeking assistance by cooperative agreements with non-profit research organizations to collaborate in research on dermal exposure and absorption of toxic substances. Such agreements require a minimum of 5% cost sharing by the recipient organization. A high degree of collaboration with EPA researchers involved in these activities is required (e.g. joint planning and conduct of most tasks and co-authored publications). The proposed work will support the research and development methodologies on dermal exposure and absorption of toxic chemicals from multimedia, including volatile and non-volatile organic compounds, metals, highly lipophilic compounds found in industrial formulations, water, soil and air as well as surfaces. Proposals will be accepted in the following areas: (1) Field and laboratory studies with human subjects to determine dermal adherence of soil resulting from gardening and outdoor recreation and dust resulting from indoor residential non-occupational activities, (2) Laboratory studies with animal models and in vitro systems to determine the dermal contact and transfer of toxic chemicals, specifically pesticide residues, from treated surfaces in residential non-occupational environments, (3) Laboratory studies with animal models to determine dermal absorption and disposition of toxic chemicals from multimedia, and (4) The development of quantitative structure activity relationships (QSAR) in relation to physiologically-based pharmacokinetic (PB-PK) models of dermal absorption that may be used to predict dermal absorption and disposition of chemicals, specifically pesticide residues, that have been transferred from multimedia to the surface of the skin. Proposals will be evaluated by expert review panels based on the proposer's experience with similar research activities, qualifications of the proposed staff and their understanding of appropriate research approaches and technologies, the relevance to the mission of OHEA and EMSL-LV working groups and feasibility of the proposed working arrangement with EPA staff. The applicant's proposed budget will also be considered in the selection process. A quality assurance narrative (QAN) will be required as part of the proposal. Multiple cooperative agreements to accommodate the research areas described above may be awarded. EPA's yearly share of the resources for the four research areas is expected to be no more than $600,000 for each of three years and could be substantially less depending on the availability of funds.

Interested applicants must be eligible to receive Federal Assistance under the Code of Federal Regulations (CFR) PART 30 - GENERAL REGULATIONS FOR ASSISTANCE PROGRAMS, and PART 40 - RESEARCH AND DEMONSTRATION GRANTS, UNDER THE FOLLOWING ACTS: the Superfund Amendment and Reauthorization Act (SARA), the Resource Conservation and Recovery Act (RCRA), the Hazardous and Solid Waste Amendment (HSWA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the Clean Air Act (CAA), or the Toxic Substances Control Act (TSCA). Additional technical instructions and appropriate application materials can be obtained from Ms. Isabella Hodge, Exposure Assessment Group (mail code 8603), U.S. EPA, 401 M St. SW, Washington, DC 20460, or FAX to (202)660-1722. Nine copies of the proposal package must be postmarked on or before July 1, 1994.
Anticipated POSTDOCTORAL RESEARCHER
Department of Animal Science, Baton Rouge, Louisiana
Ph.D. in Reproductive Biology, Molecular Biology or Genetic Engineering is required. Experience in large ani-
mal research is desired. Responsibilities: work on early development of mouse. Opportunities exist for stu-
dents with an interest in mammalian physiology, molecular biology, and genetic engineering. Benefits in-

RESEARCH ASSOCIATE
The Division of Molecular Virology and Immunology, Department of Microbiology and Immunology, of Geo-
town University Medical Center seeks a candidate for a Research Associate position. Program emphasis will be on the study of retroviral infections and the mechanisms by which certain retroviral proteins prevent cell death. Duties in-
clude: isolation of retroviral vectors, the use of retroviral vectors and normal cells, and the study of retroviral in-
fected cells in vitro and in vivo. Applicants should have a Ph.D. or equivalent degree in Microbiology/Immunology
or a related discipline and experience in molecular biology techniques. The successful candidate will be expected
to work under the supervision of Dr. Kenneth H. Hudson. The starting date is September 1, 2004. Interested
applicants should send a letter of interest and resume to: Dr. Kenneth H. Hudson, Georgetown University Medical
Center, 3900 Reservoir Road, NW, Washington, DC 20007. No phone calls please. Equal Opportunity/Affirmative
Action Employer.

RESEARCH ASSOCIATE
National Cancer Institute, Division of Lung Diseases, NCI, Bethesda, MD 20892-8578, Ph.D. in Molecular Biology.
Begin employment immediately. The NCI seeks a research associate for a project on the role of RAC in the
transduction of growth factor signaling. Duties include cell culture, Western blot analysis, confocal micros-
copy, and transgenic mouse work. The candidate should have experience in mammalian cell culture, Western
blot analysis, transgenic mouse experiments, and mouse tissue culture. Please send resume to: Dr. Daniel R.
Kabnick, Laboratory of Cell Biology, National Cancer Institute Cancer Center, Bldg 37, Room 4A-670, Bldg 37, sled
Rockville, MD 20852.

Assistant Professor of Neurology
The University of California, San Francisco, School of Medicine, Department of Neurology, 505 Parnassus Ave.,
San Francisco, CA 94143-0117. The Department of Neurology at The University of California, San Francisco,
is seeking an Assistant Professor of Neurology. Minimum qualifications include completion of an approved
Neurology residency program and successful completion of a fellowship program in Multiple Sclerosis and/or
related areas. Rank will be determined by qualifications and experience. Position is open until filled. Further
details are available from: Dr. Michael G. D'Arrigo, M.D., Ph.D., Chair, Department of Neurology, 505 Par-
nassus Ave., San Francisco, CA 94143 or by telephone, 415-476-7994. UCSC is an Equal Opportunity/Affirmative
Action Employer.

RESEARCH SCIENTIST
Division of Obstetrics & Gynecology
Division of Gynecologic Oncology
Cedars-Sinai Medical Center, an affiliate of UCLA School of Medicine, is seeking a Research Scientist/Asso-
ciate Professor to work in our Gynecologic Oncology Research Lab. The lab is engaged in translational and clin-
cal research focusing on the development of new therapeutic strategies for the prevention and management of
cancer. The lab is located in a new and modern building on the UCLA Medical Center Campus. The focus of
the lab is on the development and validation of novel molecular and cellular biomarkers of ovarian and endo-
crine malignancies. The successful candidate will have a Ph.D. or equivalent degree in molecular biology and
experience in cell and molecular biology. The candidate should have demonstrated experience in immuno-
chemistry and genetics. This position is open immediately. Interested candidates should submit a letter of in-
terest, curriculum vitae and two letters of recommendation to: Dr. Stephen J. Palefsky, Chief, Section of Oste-
urology, Department of Urology, Suite 7, 10833 Le Conte Avenue, Los Angeles, CA 90095-1207. Equal Oppor-
tunity/Affirmative Action Employer.

Assistant Professor of Pharmacology
The Pharmaceutical Research Institute, Department of Pharmacology, College of Pharmacy, University of
Illinois, 1104 South Western Avenue, Chicago, IL 60612. The Department of Pharmacology is seeking an Asso-
ciate Professor of Pharmacology with a research interest in neurotransmitters. Responsibilities include
the supervision of the research of graduate students and the initiation of a research program. Applicants
should have a Ph.D. in a related discipline and a strong background in pharmacology. The successful can-
didate will be expected to secure extramural funding and to collaborate with other investigators in the de-
partment. The University of Illinois is an Equal Opportunity/Affirmative Action Employer.

Research Assistant
National Cancer Institute, Division of Lung Diseases, NCI, Bethesda, MD 20892-8578, Ph. D. in Molecular Biology.
Begin employment immediately. The NCI seeks a research assistant for a project on the role of RAC in the
transduction of growth factor signaling. Duties include cell culture, Western blot analysis, confocal micros-
copy, and transgenic mouse work. The candidate should have experience in mammalian cell culture, Western
blot analysis, transgenic mouse experiments, and mouse tissue culture. Please send resume to: Dr. Daniel R.
Kabnick, Laboratory of Cell Biology, National Cancer Institute Cancer Center, Bldg 37, Room 4A-670, Bldg 37, sled
Rockville, MD 20852.

RESEARCH SCIENTIST
Department of Neurology
Division of Neurology
Mount Sinai Medical Center, Department of Neurology, 1 E. 98th Street, New York, NY 10029. The Divi-
sion of Neurology at The Mount Sinai School of Medicine seeks to fill a Research Scientist position in the
Division of Neurology at the Mount Sinai Medical Center. This position is available immediately. The suc-
scessful candidate will have a Ph.D. in Neuroscience. A successful applicant will have a track record of
independent, competitive research and a proven capability to obtain external funding to support a self-
supporting research program. Please send curriculum vitae and the names of three references to: Dr. Paul
Poirier, Director, Division of Neurology, Mount Sinai Medical Center, 1 E. 98th Street, New York, NY 10029.

ACADEMIC ELECTROPHYSIOLOGIST—available July 1994. Requires board certification in cardiology, board eligibil-
ity in electrophysiology, at least 16 months of EPS training, 8 months of EP fellowship, at least 12 months of
inpatient/outpatient research productivity in (1) local human repolarization and (2) the AV node, highly proficient
in ablative and pacing procedures. Position includes clinical research, patient care, and teaching. Please send
curriculum vitae, 3 letters of recommendation, and reprints to: Vickie Gamage, VA Medical Center, 2111
West Loyola Avenue, Chicago, IL 60614. Applications to: George Blood, 12 Village Lane, Cold Spring Harbor,
NY 11724.

ACADEMIC PHYSICIAN/PHARMACIST—available July 1994. Requires board certification in cardiology or inter-
nal medicine, completion of a cardiology fellowship with emphasis in electrophysiology. Experience in both
clinical medicine and research is highly desirable. Rank and salary commensurate with training and experi-
ence. This position is open immediately. Applications to: Mary C. Jones, Ph.D., Professor and Chairman, De-
partment of Medicine, 2200 California Street, San Francisco, CA 94115.

ACADEMIC PHARMACOLOGIST—available July 1994. Requires board certification in cardiology, board eligibil-
ity in electrophysiology, at least 16 months of EPS training, 8 months of EP fellowship, at least 12 months of
inpatient/outpatient research productivity in (1) local human repolarization and (2) the AV node, highly proficient
in ablative and pacing procedures. Position includes clinical research, patient care, and teaching. Please send
curriculum vitae, 3 letters of recommendation, and reprints to: Vickie Gamage, VA Medical Center, 2111
West Loyola Avenue, Chicago, IL 60614. Applications to: George Blood, 12 Village Lane, Cold Spring Harbor,
NY 11724.

ACADEMIC PHYSICIAN—available July 1994. Requires board certification in cardiology or internal medicine, com-
pletion of a cardiology fellowship with emphasis in electrophysiology. Experience in both clinical medicine and
research is highly desirable. Rank and salary commensurate with training and experience. This position is open
immediately. Applications to: Mary C. Jones, Ph.D., Professor and Chairman, Department of Medicine, 2200 Cal-
ifornia Street, San Francisco, CA 94115.

ACADEMIC PHYSICIAN/PHARMACIST—available July 1994. Requires board certification in cardiology, board eligibil-
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inpatient/outpatient research productivity in (1) local human repolarization and (2) the AV node, highly proficient
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curriculum vitae, 3 letters of recommendation, and reprints to: Vickie Gamage, VA Medical Center, 2111
West Loyola Avenue, Chicago, IL 60614. Applications to: George Blood, 12 Village Lane, Cold Spring Harbor,
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ifornia Street, San Francisco, CA 94115.

ACADEMIC PHYSICIAN—available July 1994. Requires board certification in cardiology or internal medicine, com-
pletion of a cardiology fellowship with emphasis in electrophysiology. Experience in both clinical medicine and
research is highly desirable. Rank and salary commensurate with training and experience. This position is open
immediately. Applications to: Mary C. Jones, Ph.D., Professor and Chairman, Department of Medicine, 2200 Cal-
ifornia Street, San Francisco, CA 94115.
ANNOUNCEMENTS

RESEARCH INQUIRIES INVITED

The Smokeless Tobacco Research Council, Inc. invites inquiries regarding grant applications.

The Council sponsors independent research into questions of smokeless tobacco and health. Research support is through a program of grants-in-aid.

Grant applications are evaluated by the Scientific Advisory Board and will be judged solely on the basis of scientific merit and relevance.

Deadlines for submission of grant applications are December 31 for July 1 funding and June 30 for January 1 funding. Address inquiries or requests for applications to:

THE SMOKELESS TOBACCO RESEARCH COUNCIL, INC.
420 LEXINGTON AVENUE
NEW YORK, NY 10170
Telephone: (212) 697-3485

COURSES AND TRAINING

HETEROGENEOUS SUPERCOMPUTING TECHNIQUES WORKSHOP FOR BIOMEDICAL RESEARCHERS
Pittsburgh Supercomputing Center
August 8-12, 1994

Five-day supercomputing techniques training workshop to introduce participants to the Cray C90/T3D systems. Aimed at experienced FORTRAN or C programmers, prior supercomputing experience is not necessary. Travel expenses of U.S. researchers funded by NCRR grant. Application deadline: 1 July 1994. Contact: Nancy Blankenstein, blankens@psc.edu or FAX: 412-268-8200.

METHODS IN COMPUTATIONAL NEUROSCIENCE
July 31-August 7, 1994

This is an intensive lecture/laboratory course that addresses issues relevant to computational neuroscience: the study of how the biophysical and biochemical properties of neurons and synapses, together with the architecture of neural circuits, produce animal behavior. The course program consists of two daily lectures, presented by a faculty of 30 established investigators, computer simulation tutorial projects, and an individualized modeling project. The course is designed for advanced graduate students, postdoctoral fellows, and faculty members who have trained in a variety of disciplines, including neurobiology, biophysics, electrical engineering, computer science, and psychology. Enrollment is limited to 23 participants.

DIRECTORS: David Kleinfeld and David W. Tank, Biological Computation Research Department, AT&T Bell Laboratories, Murray Hill, New Jersey.
TUITION: $1500 (includes room and board); partial financial aid is available. APPLICATION DEADLINE: April 15, 1994.
For information and application form contact: Admissions Coordinator, Marine Biological Laboratory, Woods Hole, MA 02543; Telephone: (508) 548-3705, extension 401; Internet: admissions@mbl.edu.

FLOW CYTOMETRY COURSE
JUNE 6-10, 1994—COLORADO SPRINGS

An intensive introductory course covering the theory and practice of flow cytometry will be held at the University of Colorado. Instrumentation, sample preparation, data acquisition and analysis, and hands-on applications are included in this limited enrollment (8) class. The $1,580 fee includes tuition, instructional materials, housing, meals, and Thursday dinner at the Broadmoor Hotel. For more information contact:

Dr. Douglas Swartzendruber
Department of Biology
University of Colorado
Colorado Springs, CO 80918
Telephone: 719-593-3181, FAX: 719-593-1239
E-mail: deswartzendr@uccs.edu

Nicoderm®, Procardia XL®, Duragesic®, Estraderm... some of the most recognizable products in the pharmaceutical industry. We're ALZA, the company that developed these popular products. We are expanding our Biological Sciences Group, and are seeking talented, dedicated professionals to participate in the most exciting breakthroughs in pharmaceutical therapy. Join ALZA today in these San Francisco Bay Area positions.

Research Scientist/Molecular Pharmacologist
Bring your expertise in cellular/molecular pharmacology and in vitro/in vivo transport studies as you assess the biological activities of drugs throughout the transmucosal delivery process. Qualifications include a PhD in Pharmacology, Biochemistry, Cell Biology or equivalent with 3-8 years' postdoctoral experience. Of key importance is your background in molecular pharmacology and mammalian cell cultures.

Staff Scientist/Immunologist
We're seeking an experienced scientist with extensive experience in cell mediated immunity with an emphasis on contact sensitization for this high profile position. You will examine basic immune mechanisms, as well as improve cell based in vitro tests. Ideally, you will have a PhD in Immunology or equivalent with at least 2 years' postdoctoral experience. Cell culture experience is required.

Staff Scientist/Protein Formulation Chemist
Utilize your experience in formulation development as you develop new, innovative formulations for proteins and peptides in drug delivery system pharmaceuticals. You should have a PhD in Pharmaceutical Chemistry, Biochemistry or equivalent with at least 2 years' postdoctoral experience. Expertise in maintaining the functional activity of isolated proteins and peptides: and a solid background with analytical methods to characterize formulation stability.

For consideration, please send your resume, indicating position of interest, to ALZA, Human Resources, 950 Page Mill Rd., P.O. Box 10960, Palo Alto, CA 94303-0982. FAX (415) 494-5151. Or call (415) 494-5319 or our TDD line at (415) 494-5003. We are pleased to be an equal opportunity employer and encourage applications from qualified persons with disabilities. All trademarks are registered to their respective companies.

The Gillette Company, a world leader in the international marketplace, currently has several challenging research opportunities available for talented, innovative scientists and engineers. Our Boston Research and Development Laboratory conducts applied research and technology development for all aspects of Gillette's diverse consumer product lines.

We're looking for individuals who are highly creative and capable of developing new programs and setting new directions.

Chemists/Chemical Engineer
Opportunities currently exist for organic chemists, biochemists and chemical engineers. A Ph.D. and evidence of exceptional creativity and technical breadth is required. Up to two years of postdoctoral or equivalent experience is desirable.

Materials Scientist
An opportunity exists for a materials scientist. This position requires a Ph.D. in Materials Science or a related field and up to two years of postdoctoral or equivalent experience. Creativity, demonstrated technical breadth, and a history of accomplishment is essential.

Plastics Engineer
An opportunity exists for a plastics engineer. A demonstrated ability to establish new programs is essential. A Bachelor's degree in mechanical, chemical or plastics engineering, plus 3-5 years of related experience is required. A Master's degree plus related experience or Ph.D. is preferred.

Microbiologist
An opportunity exists for a microbiologist to carry out research in the field of oral care. A Bachelor's degree plus 3-5 years of experience or a Master's degree is required. In addition to the opportunity to significantly impact the research and development program, Gillette offers a stable, growing business environment along with excellent salary and benefits.

Qualified candidates should submit a resume, including salary history to Kate Martucci, Human Resources, The Gillette Company, One Gillette Park, Boston, MA 02127. An Equal Opportunity Employer.
Research Opportunities

Celtrix is a biopharmaceutical company engaged in the research and development of potential therapies for debilitating diseases associated with aging and autoimmune conditions. Currently, we are seeking the following individuals to contribute to our research efforts in the San Francisco Bay Area.

POSTDOCTORAL RESEARCHER Molecular Biology
You will conduct independent research to characterize a novel pathway for protein secretion in bacteria, while interacting with other team members who are applying this technology to the production of human therapeutics. Your recent doctorate in molecular biology should demonstrate a strong background in bacterial genetics, contemporary skills in nucleic acid manipulation, and expertise in protein purification. Prior experience with bacterial secretion systems at a genetic and biochemical level is highly desirable. Applicants must be able to assume this new position before June 15.

RESEARCH SCIENTIST Preclinical Safety & Efficacy-Ophthalmology
We are seeking a Ph.D. with postdoctoral training in the visual sciences to develop and evaluate animal models of human ophthalmic disease, and to use these models for the evaluation of novel ophthalmic therapeutics.

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COLD SPRING HARBOR LABORATORY CONFERENCE ON
MOLECULAR APPROACHES TO
THE CONTROL OF INFECTIOUS DISEASES
October 5-9, 1994

ORGANIZED BY:
Fred Brown, USDA, Plum Island Animal Disease Center
Robert Chanock, NIAID, National Institutes of Health
Harold Ginsberg, Columbia University College of P & S
Erling Norby, Karolinska Institute, Sweden

You are cordially invited to participate in a meeting on Molecular Approaches to the Control of Infectious Diseases, with particular emphasis on immunological aspects and immunization. The meeting will be held at Cold Spring Harbor Laboratory beginning on Wednesday, October 5th at 7:30 pm and will conclude with lunch on Sunday, October 9th. The following keynote speakers have accepted to attend:

TOPICS
Cellular Immunity
Antibody Engineering
Bacterial Toxins
Live Vectors
Vaccination against Parasitic Diseases
Mucosal Immunity
DNA Immunization
Immunological Memory

SPEAKERS
Jay Berzofsky, National Institutes of Health
Dennis Burton, Scripps Research Institute
John Collier, Harvard Medical School
Roy Curtiss, University of Washington, St. Louis
Adel Mahmood, Case Western Reserve University
Ian Ramshaw, University of Washington, St. Louis
Harriet Robinson, University of Massachusetts Medical Center
Rolf Zinkernagel, University of Zurich, Switzerland

The meeting will also host the Albert B. Sabin Vaccine Foundation’s inaugural lecture and presentation of the First Gold Medal Award for outstanding achievement in the field of vaccines in honor of the man who developed the oral polio vaccine. Please note that abstracts must arrive at the meetings office by the abstract deadline, July 27, 1994. Selection of material for oral and poster presentation will be made by organizers. Please apply early as numbers are limited. For additional forms and information, please contact:

Meetings Coordinator
Cold Spring Harbor Laboratory
1 Bungtown Road, Cold Spring Harbor, NY 11724-2213
516-367-8346 FAX: 516-367-8845 e-mail meetings@cshl.org

ALPHAGENE

AlphaGene is a new biotechnology company which develops high-quality and innovative gene libraries for the emerging biotechnology industry, using a unique approach to genetic expression studies contracted by the pharmaceutical industry, and develops novel approaches in the biologic and genetic analysis of human disease.

AlphaGene will recruit highly-motivated molecular biologists for the following positions:

POSTDOCTORAL SCIENTIST/RESEARCH ASSOCIATE

Candidates must possess a Ph.D. degree in molecular biology with extensive experience in cloning, DNA sequencing, and expression of heterologous genes in prokaryotic and eukaryotic cells. Experience in the synthesis of gene libraries, PCR, and in-situ mutagenesis is highly desirable. Scientific talent, achievement focus, and teamwork skills are a must.

AlphaGene, founded by scientists at Harvard Medical School, is located in Cambridge, MA, amidst strong academic institutions and a growing community of "leading-edge" biotechnology companies. AlphaGene offers a competitive salary, a generous benefits package, opportunities for growth, and an "environment of excellence" for professional and commercial success. Qualified candidates are requested to submit, in confidence, a cover letter, their curriculum vitae, and two references to: Dr. George Scholes, AlphaGene Resources, 60 Glen Road, Suite 302, Brookline, MA 02146. An Equal Opportunity Employer M/F/D/V.

The State University of New Jersey
RUTGERS
PROFESSOR AND CHAIR
DEPT. OF ENVIRONMENTAL SCIENCES

Rutgers, the State University of New Jersey invites nominations and applications for a senior faculty position at the rank of Professor. The successful candidate will also be appointed Chair of the Department of Environmental Sciences. The Rutgers University Agriculture Experiment Station is committed to strong support and expansion of the Environmental Sciences and Engineering Areas. Significant additions to the research facilities (15,000 sq. ft.) and new faculty positions in the department are planned over the next three years. Currently the Department has 13 full time faculty, is in the process of filling 4 positions and occupies more than 55,000 sq. ft. of laboratory and office space.

The position entails leading a growing department within a University with exceptional depth in the area of the environment, from the molecular to the ecosystem level and from the fundamental to the applied sciences. The successful candidate will be expected to take an active role in integrating departmental activities with other University programs and to contribute to the environment. The candidate must be eligible for a tenured position at the rank of Professor, have a Ph.D., an understanding of the multidisciplinary needs in the environmental field and creative ideas for the future. A well-established reputation in a field of environmental science or engineering, a record of substantial grant support and administrative and leadership skills also are required. Appointment is anticipated to be at Professor level. Salary will be commensurate with qualifications. Applications with CV’s and names of three referees, nominations, and requests for further information should be addressed to Dr. L.Y. Young, Search Committee Chair, Center for Agricultural Molecular Biology, Cook College, P.O. Box 231, Rutgers University, New Brunswick, NJ 08903. The University is an Affirmative Action/Equal Opportunity Employer

Cellular Immunology Gene Therapy

Postdoctoral fellowships are available in the Surgery Branch, NCI for scientist with experience in cellular immunology or molecular biology for research projects dealing with:

1. Studies of the cellular immune response to tumor antigens
2. Gene therapy of cancer

Send resume to:
Steven A. Rosenberg,
M.D., Ph.D.
Chief, Surgery Branch
National Cancer Institute
National Institutes of Health
Building 10, Room 2B42
Bethesda, MD 20892
Telephone: 301-496-4164

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The Liposome Company, a growing biotech company specializing in lipid- and liposome-based products, has an immediate opportunity in the following growing area:

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Virologist/Immunologist to establish an in vitro/in vivo screening program for new antiviral formulations and to participate in a program to evaluate the immunological response to new vaccine adjuvants.

Qualified candidates will have a PhD in Microbiology, Virology, Immunology or related discipline. Two or more years experience in antiviral research is required.

*In addition to a creative environment, we offer a competitive salary and comprehensive benefits. Interested candidates please send your resume to: Human Resources Department, One Research Way, Princeton, NJ 08540. An Equal Opportunity Employer.*
Jolla, California, Specificity Research
Dr. Claudio Cavazza - Sigma Tau Pharmaceuticals, Rome, Italy, "Molecular Strategies for Drug Design - A Commercial Perspective"
Dr. Larry Gold - Molecular, Cellular and Developmental Biology, University of Colorado, and NeXagen, Inc., Boulder, CO, "Oligonucleotides as Novel Therapeutic and Diagnostic Agents"
Dr. Jiri Novotny - Macromolecular Modeling, Bristol-Myers Squibb Research Institute, Princeton, New Jersey, "Origin of Biological Specificity in Protein-Protein Complexes"
Dr. Peter Tobias - Immunology, The Scripps Research Institute, La Jolla, California, "Molecular and Cellular Recognition of Endotoxin"

Principal Sponsors: The University of New Mexico Cancer Research and Treatment Center, and the Office of the Associate Provost for Research, and the Los Alamos National Laboratories Life Sciences Division.

Program starts at 9:00 a.m.

Pre-Registration fee: Faculty and staff -- $20.00; students free if pre-registered (before 4/22/94). On-site registration at 8:30 a.m. -- $25.00 faculty and staff; students - $5.00. For information concerning registration or submission of abstracts, call Melinda Guerrero at UNM Cell Biology, 505/277-6636 or fax 505/277-9494. For overnight hotel reservations at conference rate, call La Fonda at 1-800-523-5002 and mention the UNM Structural Biology Symposium.

Emory University School of Medicine
Department of Biochemistry
EMINENT SCHOLAR IN X-RAY CRYSTALLOGRAPHY OF BIOLOGICAL MACROMOLECULES

Applications are invited for an endowed professorship as a Georgia Research Alliance Eminent Scholar in X-Ray crystallography of biological macromolecules. The Scholar will establish a state-of-the-art X-ray diffraction facility in new research space, maintain an active research program, and will participate in the recruitment of a junior level faculty member in biological X-ray crystallography. Applicants are expected to have an internationally recognized research program. Send a letter briefly describing research program, a curriculum vitae, and the names of three references by May 31, 1994 to: Dr. Alfred Merrill, Department of Biochemistry, Emory University Medical School, Atlanta, GA 30322. Phone: (404)727-5978. FAX: (404)727-3954.

Emory University is an Equal Opportunity/ Affirmative Action institution.

DIRECTOR OF MOLECULAR BIOLOGY

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