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

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



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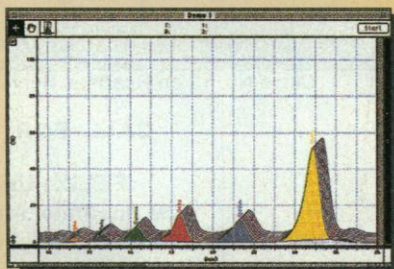
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The *Women in Science* special advertising section in this issue of SCIENCE profiles leading women scientists in the biotechnology and pharmaceutical industries. Full-page recruitment advertisements are featured in the special section beginning on

PAGE 572.



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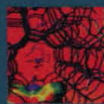
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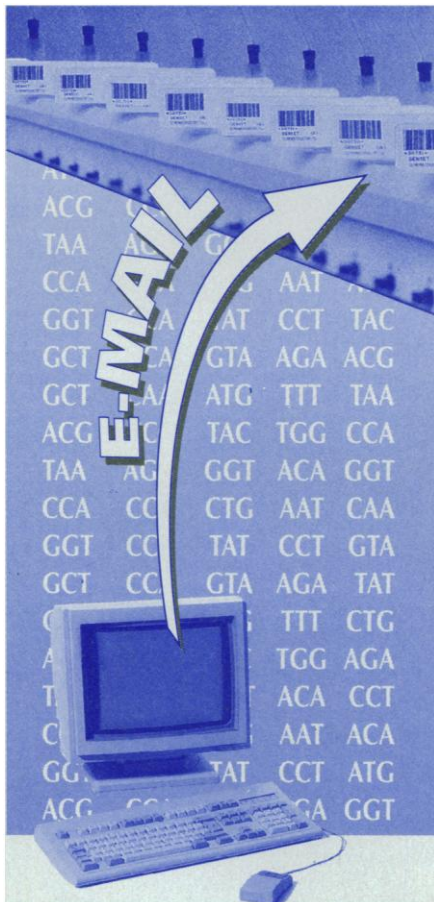


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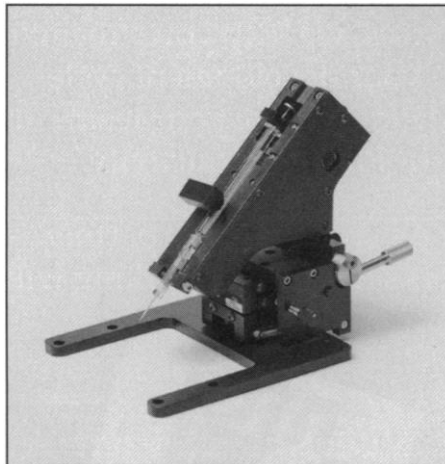
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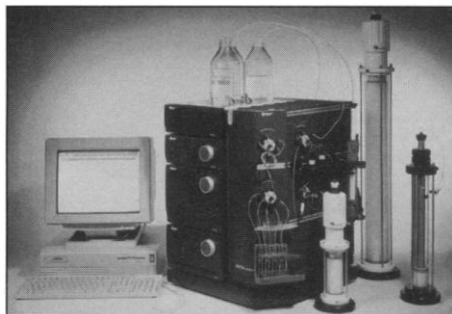
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UNFINISHED BUSINESS: CAREERS FOR WOMEN IN BIOTECHNOLOGY AND PHARMACEUTICALS

by John Timpane

Among the accelerating changes in scientific life in these last years of the century, none has been more remarkable than the movement of women into the work force. With each year, the number of women working in industrial science is growing. Although that growth has not been equal in all areas, the change is both permanent and beneficial.

Below, we survey the situation for the female scientist of 1996. After a look at the numbers, we speak to scientists at Allergan, Arris Pharmaceutical, Bristol-Myers Squibb, Eli Lilly, and Parke-Davis. These women work in many parts of the modern pharmaceutical company: discovery research, bioprocess research, toxicology, and chemical technical services. From their reports, it appears that while gender may still make a difference, that difference is initial, fleeting, and increasingly a thing of the past. Their comments and advice outline the profile of the successful industrial scientist of the present and future: an expert with a divergent background; a positive, confident communicator and team worker; a contributor who gets results and recognition.

Uneven Gains

In both science education and science employment, women are making marked, steady gains, but in both areas those gains have been equivocal. According to the National Science Foundation, women earned 44 percent of all science and engineering bachelor's degrees in 1991 (the most recent year available), including 51 percent of all biological science bachelor's degrees. They earned 45 percent of all master's degrees in science and engineering and 29 percent of all doctorates; both numbers reflect a steady rise over the last decade. Women tend to concentrate, however, in the life and biological sciences, and they tend to be less well represented in mathematics, computer science, and engineering. According to figures compiled by the American Association for the Advancement of Science, women have shown lower persistence rates from degree level to degree level than men have, despite scoring as well or better in terms of grades and standardized test scores.

The employment scene is similarly complex. The number of women in the sciences and engineering is increasing every year and has been since at least 1982. Yet even though women compose about half of the U.S. work force, they represent only about 20 percent of all employed

science and engineering workers, and that representation is uneven. As of 1991 about half of all female scientists were concentrated in the social sciences (where they made up about 25 percent of the total), psychology (38 percent of total), and the life sciences (25 percent of total). Less than 15 percent of all computer scientists, less than ten percent of all physical scientists, and less than five percent of all engineers are female. Industrial science eagerly seeks out the best scientists, yet it is still true that today there are fewer women as you ascend degree levels, fewer still as you ascend the levels of management responsibility.

Clearly, the full integration of women into the work force is still in process. Change happens woman by woman, man by man. So the focus narrows from "women in science" to "the individual woman in science." What awaits the woman looking for an industrial career in science? What should she do to prepare herself for a rewarding career? Numbers are less help here than accounts and advice from experienced scientists.

Does Gender Make a Difference?

This was a question for which each of our interviewees had a slightly different answer. Most felt that if there is a difference, it's small. Wendy Young, scientist in medicinal chemistry at Arris Pharmaceutical, says, "Chemistry is definitely a male-dominated field, and it's hard not to be aware that women are a minority there—but gender makes no difference in your career and success. That, I believe, is result-oriented." Barbara Thorne, research investigator in bioprocess research for Bristol-Myers Squibb, says, "Generally, my male colleagues have been very open to collaboration and input from me and from other women."

No one felt that gender bias had hurt her chances for recognition or advancement. But a few felt that adjustment was an issue—not so much for themselves as for the men around them. Jana Maxwell, group leader in chemical technical services for Eli Lilly, says, "In some fields, such as manufacturing or processing, when you first arrive you may be perceived as a rarity. I had no problem with that, but some of the men I worked with did." Resistance among male scientists appears to be area-specific. Liz Syage, director of process chemistry at Allergan, says, "Some of the outside labs I deal with are quite male-oriented. It can be interesting. You have to develop a relationship with people not necessarily used to dealing with a woman. On the other hand, they have to work with me to get the business." Thorne of Bristol-Myers Squibb says that "in certain labs, you still find, among senior male scientists, a certain tendency to reject women's opinions, but I believe it is less likely due to gender than to aggressive versus more passive personalities."

Still, the consensus among these quite different scientists is that the atmosphere in industrial science is quite welcoming. "In a way," says Maxwell of Eli Lilly, "opportunities may be even greater in some areas for the good female scientist. People are so eager to promote women that you can be tempted to accept promotion too early." Again and again, we were told the same thing: what scientists care about more than anything else is doing good science. Men and women alike are pleased and eager to work with anyone who can help the group get where it wants to go.

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The Assertiveness Window

As we will learn, communications skills are essential in the contemporary biopharmaceutical company. Women are excellent communicators; neither gender needs assertiveness training. In the context of scientific teamwork, however, there does appear to be an "assertiveness window" that women need to keep in mind, at least initially. Michele Smith, senior research scientist in infectious diseases at Eli Lilly, says, "You want to be known as assertive and confident, but not as a nag. Perhaps because they are used to being competitive, men in general don't have to worry about such labels. Luckily, that's changing as more women come into the sciences." Sheryl Hays, associate research fellow in chemistry for Parke-Davis, says, "There



Making a difference, woman by woman: Hays of Parke-Davis (above) and Nair of PRI (below)

is a fine line between being assertive and being aggressive. It's still true that there's a finer line for women than for men, meaning that men can get away with some behaviors that women cannot." Maxwell of Eli Lilly agrees: "Women have to learn not to be overly uncomfortable with the label of being pushy. That does tend to go away as you become recognized for your contributions." Xina

Nair, principal scientist in dermatological research for PRI, a division of Bristol-Myers Squibb, says, "You must learn to present an idea without being belligerent; you must learn to be forceful without being arrogant. Above all, you must participate and not withdraw if your ideas are not recognized initially."

All said they really liked the frank give-and-take that characterizes industrial science. Young of Arris says, "You have to voice your ideas assertively, no matter your gender—that's how the team process works." The trick is that, as progress emerges from the candid exchange of opinions, assertiveness must somehow coexist with team-consciousness. Hays of Parke-Davis points out that at group meetings, compromise is the rule, especially when making hard choices with competing versions of the same compound. She sees the frequent intensity of team meetings as not only beneficial but also necessary. "For example," she says, "often we have to choose between bioavailability and potency, and we'll have heated debates on that issue. That's healthy. It gives everyone a better idea of where we're going. In fact, if you didn't have those kinds of meetings, you'd be in trouble." And no one is staying quiet for fear of labels. As one scientist put it, "If there's an idea you believe in, you owe it to your team to push as hard as you can for it, until it's either accepted or proven wrong."



Bristol-Myers Squibb

Do Women Have to Work Harder to Be Recognized?

"The previous generation has raised women that work hard and work smarter," says Nair of PRI. "They know how to present themselves and how to excel." Lori Dostal, research associate in toxicology for the pharmaceutical research division of Parke-Davis, says that "the women I've seen do an excellent job—if anything, that keeps raising the level of expectation, which leads to harder, better work. I've never felt that a particular man could do better just by virtue of his gender."

Several scientists, however, feel sure that the entry-level female scientist does have to work harder. "There's no question in my mind that's true," says Maxwell of Eli Lilly. "And I don't know whether that's because of objective external pressures or subjective internal ones." Hays of Parke-Davis says, "Initially, I did have to work harder. I know I put in a lot of hours and then still had a family to take care of. Men are getting more involved in family issues now, so that scene is improving." Smith of Eli Lilly says, "I think women still have to work harder, although, as more women come into the field, it's getting better. It's certainly better now than when I started 14 years ago."

That is another way of seeing this hard work as good news. Nair of PRI has a lovely metaphor for the slow process of achieving an equitable workplace: "It's like a dyed fabric. It will take time to dilute it out. It won't change overnight, but by increments. You can say two things: it has never been better for good female scientists, and it's going to get better still, because we work hard and we achieve."

The Diverse Woman

Like many working scientists, our interviewees were very happy in their jobs—and a little surprised by the turns their careers have taken. All of them are examples of divergent backgrounds: what Dostal of Parke-Davis calls "having a central interest but keeping all doors open." Their experience underlines the need for flexibility, divergent thinking, and a taste for variety.

Thorne of BMS already had an interdisciplinary outlook in high school, leading her to apply to the integrated science program at Northwestern University. "I just wanted to get a broad grounding in a lot of different things," she says. "That training and mind set have stood me in very good stead." For her, the biggest benefit of such a program is that it teaches students how to think and how to solve problems. "Early on, it almost doesn't matter what the topic is on which you learn these skills," she says. "The thing is to learn them. Concentration in a single field can come later." She went on to a PhD in molecular biology and thence to her role in bioprocess research, where she and her colleagues often have to be "jacks of all trades rather than specialists."

Dostal of Parke-Davis developed her divergent tastes during her graduate rotations: "I gained experience in totally different areas, got a feel for how they were different. I went from a microbiology BS to a pharmacology PhD." Her research at the moment takes her into reproductive toxicology, renal toxicology, CNS medicine, cardiovascular medicine, and other areas.

Young of Arris became interested in the wider fields of biochemistry and pharmacology while working in organic

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We seek a Research Scientist to join our anti-inflammatory drug discovery team. Qualified candidates will have a Ph.D. in Biochemistry, or related field and previous post-doctoral training. Candidate must have proven experience in protein purification and characterization, as well as mammalian cell culture. Preferred candidates will have a record of research accomplishments and previous industry experience. (Job Code BPSC2466)

RESEARCH SCIENTIST

The requirements for this position are a Ph.D. in the Life Sciences or the equivalent, and post doctoral training or related experience. Additionally, the applicant should typically have two years of experience in a research or laboratory setting designing and conducting complex experiments. Advanced scientific analysis skills and troubleshooting skills, and advanced laboratory work skills are essential. Knowledge of IND's and NDA's, and previous experience in inflammation research transduction, gene cloning and expression are a must. (Job Code BPSC3201)

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Department of Defense Breast Cancer Research Program

The U.S. Army Medical Research and Materiel Command (USAMRMC) will issue a third Broad Agency Announcement (BAA) to solicit proposals for breast cancer research. The 1996 Defense Appropriations Act provides \$75 million to continue the Department of Defense Breast Cancer Research Program.

This year's program features a change in emphasis from past solicitations. Funds are designated for innovative scientific ventures that represent unattempted avenues of investigation or novel applications of existing technologies.

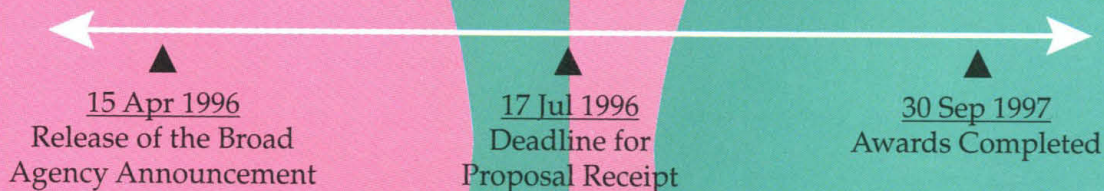
The programmatic strategy will be implemented by a call for proposals in three categories:

IDEA awards: The intent of IDEA awards is qualitatively different than traditional research projects. The goal of this special award category is to stimulate and reward speculative but especially promising and creative ideas that may yield a high payoff. In accordance with this challenge to be innovative, we invite submission of proposals even if they lack pilot data. However, such proposals must nonetheless demonstrate solid scientific judgment.

Research with Translational Potential awards: The intent of this category is to support larger interdisciplinary research projects that will translate into advances in the field of breast cancer prevention, treatment, and ultimately, eradication.

Training and Recruitment awards: This category consists of pre- and post-doctoral traineeships, career development awards, and sabbaticals. The USAMRMC particularly wants to solicit participation by younger scientists and scientists not previously involved in breast cancer research.

Significant execution milestones for this year's program include:



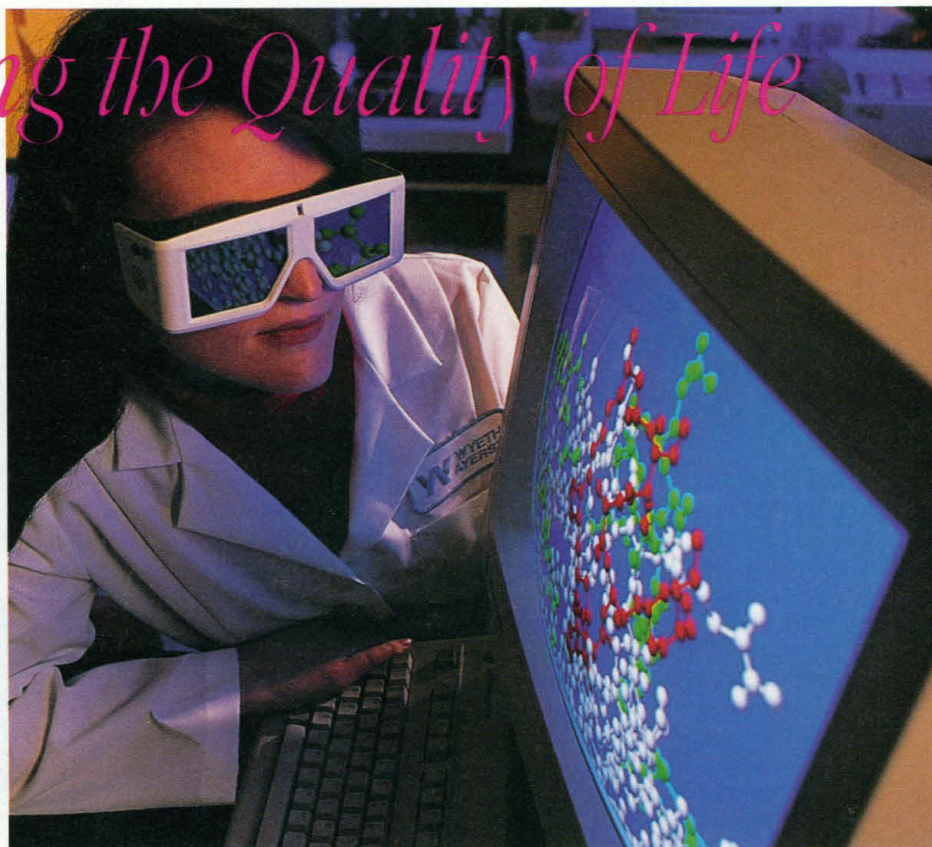
For more information or to receive a copy of the Broad Agency Announcement:



- (1) Write to: Commander, USAMRMC, Attn: MCMR-PLF (BCRP BAA), Building 1076, Fort Detrick, Frederick, MD 21702-5024,
- (2) FAX your name and mailing address to (301) 619-7907, or
- (3) Use the World Wide Web: <http://mrmc-www.army.mil>

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synthesis in graduate school at Princeton and during a postdoc at Sloan-Kettering working on the total synthesis of taxol. But it was not until she came to Arris that it became, in her words, "essential for me to be aware of the whole process going on inside the company, rather than just my corner of it."

Nair of PRI went from an AB in nursing to a BS in pharmacy and a PhD in pharmacology, and from there to dermatology research. She laughs as she says, "It makes perfect sense. While doing my nursing degree, I was involved in a clinical research ward, where they were investigating new therapies. That got me interested in pharmacy, which involved a lot of organic chemistry. By the time I was done, I was more interested in research than in practicing pharmacy proper." Her present research calls on her knowledge of biology, anatomy, microbiology, and biochemistry. Pharmacology was an excellent basis: "It's a true crossover field. Being prepared in all these areas allows you to synthesize ideas better."

Hays of Parke-Davis went from a PhD in medicinal chemistry to a postdoc in nuclear medicine. "Yes, my postdoc was a big leap," she says. "Why would you go from grad school to a postdoc in the same field? Along the way I picked up some very useful skills, including radiolabeling and basic biochemical techniques."

Syage of Allergan moved from medicinal chemistry to a management job in process chemistry. "I work with all sorts of disciplines," she says, "not just with chemistry groups, but also with project teams, where I get input from toxicology, clinical research, and preformulation and analytical groups. I've also had to learn FDA regulations, which is something new, fascinating, and essential."

Smith of Eli Lilly came from a chemistry background

and has had to learn biochemistry while on the job. "Now," she says, "I'm using protein chemistry to create targets for drug development." She works with molecular biologists, who clone the protein; microbiologists, who do the in vitro assays; organic chemists, who create the compounds; and scientists in metabolism and development, who determine ways to make those compounds into suitable drug candidates. She sees chemistry as a gateway to a diversity of fields: "You can take these basic techniques into different areas, retrain yourself over and over, keep learning." Young of Arris is another chemist who is learning biochemistry: "It's hard not to, with the work we do around here."

All these women are enthusiastic about the need to be versatile. Dostal of Parke-Davis says simply, "I love it. It's really interesting, and it gives a context to the science we're doing." Her ability to converse in a number of scientific dialects has also improved her team skills: "As a member of a team, I can see what everyone's thinking about to better organize and direct what we're doing."

What Kinds of Jobs Are Out There?

The answer is: any kind you're good at and willing to work for. Although almost all of our interviewees wanted an industrial rather than an academic job, few knew exactly what they wanted to do when they went into graduate work. Like many scientists, almost all point to a crucial mentorship, a close relationship with a colleague, advisor, or boss that sent them in their present direction. "The scientific and personal importance of the mentor relationship can't be overstressed," says Thorne of BMS.

Bioprocess research, where Thorne works, is, in her words, "a department sandwiched between R and D." That department's mission is to take projects that have clinical potential and assist the transition into the development department, which in turn takes those compounds into

clinical trials. Upstream are the discovery researchers, whose science produces the compound. "By the time any molecule reaches us," she says, "people have already done the early animal models and the small-scale bioassays, trying to determine mechanisms of action." Downstream, the clinical production and purification departments await. "We come up with production and quality assurance methods," she says, "so that production and purification can op-



A flair for flexibility, divergent thinking, and variety: Dostal of Parke-Davis (above) and Thorne of Bristol-Myers Squibb (below)

Parke-Davis

timize these processes and begin to make true clinical-size batches of the protein."

How is Thorne's job different from, say, discovery research? "While scientific expertise is still critical, by itself it is not enough," she says. "Nonscientific attributes, especially communications skills, are especially important. It's all teamwork here, as we hand each compound on to the next department downstream. We have to be able to handle different molecules and diverse problems well enough to get the production process started."

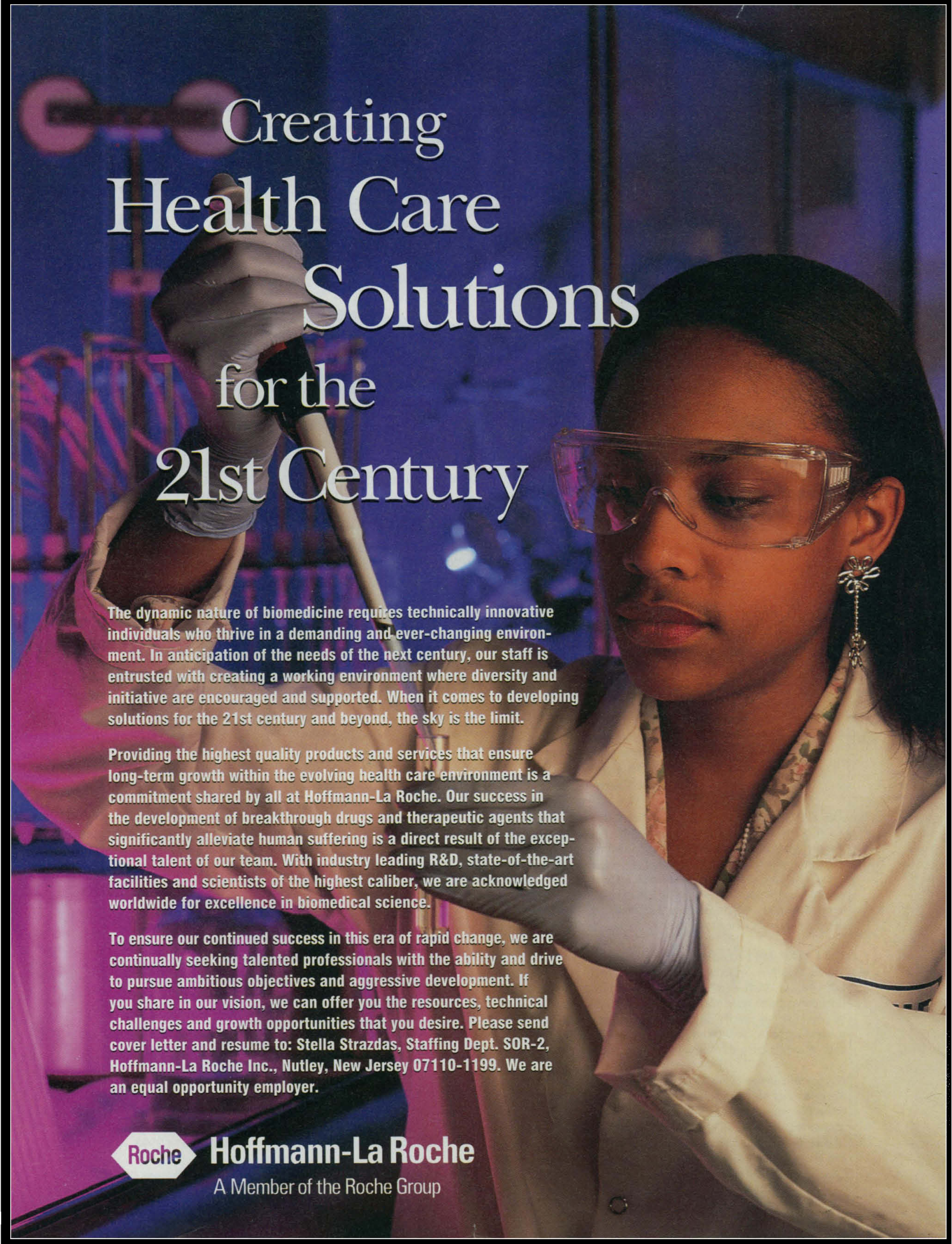
Maxwell of Eli Lilly is truly a scientist-manager. Chemical technical services, where she works, provides scientific and technical support to the manufacturing branch of Eli Lilly's plant site. "I moved here from development because I was looking to make more of an impact," she says. Not only does she supervise four technical service representatives and the technicians who report to them, but also she is responsible for introducing new production processes into the plant. "We get both already-marketed items with fully scaled-up processes, and brand-new speed-to-market compounds that haven't been scaled up yet," she says. "That's why we have a development component here at the plant that interacts with other development groups outside."

She has what she calls "a day's worth of meetings each day." At technical staff meetings, she deals with staffing issues; at interdisciplinary meetings, she interacts with quality control, technical services, industrial hygiene, and other departments. There are meetings on general plant operations and meetings with regulatory officers from the

continued...



Dan Lamont

A woman with dark hair, wearing a white lab coat, safety glasses, and white gloves, is focused on a task in a laboratory. She is holding a pipette and appears to be transferring liquid into a small vial. The background is a blurred laboratory setting with various equipment and blue lighting.

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FASEB JOB FAIR

ASBMB/ASIP/AAI Annual Meeting

American Society for Biochemistry and Molecular Biology
American Society for Investigative Pathology
American Association of Immunologists
New Orleans, LA ♦ Convention Center ♦ 1-6 June

The FASEB Career Resources Office will again operate the FASEB Job Fair at the joint meeting of the *American Society for Biochemistry and Molecular Biology*, *American Society for Investigative Pathology*, and *American Association of Immunologists*. Researchers and scientists from around the globe are expected to participate in this meeting which will be held at the Convention Center in New Orleans, LA, June 1-6. Attendance for this meeting is expected to be over 5,000 participants.

The FASEB Job Fair will feature up-to-date computerized registration, search-and-referral, and interview scheduling services. In addition, our “traditional” one-on-one interviewing facilities, confidential message system, and position description posting area will be provided. As always, friendly and knowledgeable Career Resources personnel will be on hand to assist employers and candidates in maximizing their use of the available services.

As an added feature of the FASEB Job Fairs, *Career Development Seminars and Workshops* will be presented by top human resources professionals and bio-scientific recruiters. Topics discussed will address important employment issues facing scientists at all levels of their biomedical careers. For complete Job Fair information and fee schedule, please visit the Career Resources website at <http://www.faseb.org/careers>; or call us at 301-530-7020.

FASEB JOB FAIR HOURS OF OPERATION

SIGN-IN*, REGISTRATION, INTERVIEW SCHEDULING and SEARCH FOR APPLICANTS

SUN, 2 JUNE	11 AM - 8 PM
MON-WED, 3-5 JUNE	8 AM - 5 PM

* Interviews can only be arranged after sign-in; doing so early, therefore, is highly recommended!

CAREER DEVELOPMENT SEMINARS/WORKSHOPS

MON-WED, 3-5 JUNE	6 PM - 7:30 PM
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INTERVIEWS

MON-WED, 3-5 JUNE	9 AM - 5 PM
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home office in Indianapolis. "I find the technical and scientific part more enjoyable, the administrative part more of a necessity," she says—"yet I find that you can have more of an impact with administration because you can influence policy. Discovery research has all the glamour, but here it's more of an adrenalin-based job: you're helping put money in the bank, running things, trouble shooting, right on the edge of what's going on."

Like Maxwell, Smith wishes she had more time for bench science. As senior research scientist in infectious diseases, she runs a lab and supervises experimental design and evaluation. Besides the managing and the intensive literature review, there are a great number of interdisciplinary meetings. "We are part of a very collaborative team of labs here," Smith says. "I talk with microbiologists, molecular biologists, organic chemists, and toxicologists—I talk to those people more than I talk to biochemists!" Smith sees her laboratory not as an end in itself but as a nexus in a long, interactive network: "You're in the middle of everything here, and you can interact with people in all the fields, all the departments."

Syage of Allergan got what she wanted: a management job that stayed in touch with chemistry. "This position was created at the very time I started looking for a new direction," she says, "and my boss really wanted me to do it." She is responsible for the scale-up and commercial manufacture of bulk drug substances for Allergan's development compounds. Since Allergan contracts out all of its manufacturing, Syage works with contract laboratories in the United States and Canada. "I take the newly developed compounds from the research group, learn the chemistry, and present it to the contract labs," she says. "I'm the intermediary between our chemists and their chemists." She says her chemistry background prepared her well for this polyglot position: "You learn how to manage a number of different tasks doing bench chemistry, and that ability to keep several balls in the air has helped me a great deal in this job. I thought I'd be designing organic molecules forever, and look what I'm doing now."

Go Ye and Do Likewise

It's not surprising that this versatile group advises women to become versatile. Thorne of BMS recommends "problem-solving abilities and conceptual skills" in a variety of settings. As Nair of PRI puts it, "Be excellent in your area, but be flexible. Interdisciplinary training is of the essence now, meaning a good background in both chemistry and biochemistry. More and more, you need to understand not only the molecules you are working with but also how they interact with biological systems. Any woman who can play in both areas will do very well in this industry." As Syage of Allergan puts it, "Be the best at a particular thing in your field, but have something in your back pocket, whether it's biochemistry, molecular biology, or computer science. Once you get out into the world, you never know what's going to come along."

Nothing, moreover, distinguishes a job candidate more quickly than the presence or absence of lab experience. "We're interviewing a lot of people at Arris now," Young says, "and we look for hands-on experience—that's invaluable, especially in synthetic organic chemistry. Pick that up in undergraduate work, graduate work, co-ops, internships—in any way you can." Dostal of Parke-Davis calls technical lab experience "crucial." Even though most of her job is office-based, she says her own technical experience is

constantly put to the test: "When we have a problem in the lab, I have to be able to step in and help. You always need it, even after you leave strict bench work." Maxwell of Eli Lilly points out that as companies downsize, "lab experience becomes even more critical, because the entry-level scientist is competing not only with others like herself but with experienced scientists looking for a new job."

Young of Arris stresses the need to communicate and be a team player. So does Nair of PRI: "We don't work only with scientists; we work with people from marketing, sales, and regulatory affairs. You need to be able to speak their language and help them understand yours."

Hays of Parke-Davis suggests that women research their futures. "People should do research on each next step ahead of time: grad schools, postdocs, the professors at each institution. Visit the departments, meet the people you might be working with. After that, find a company that is in line with your goals."

After women become as smart and as market-conscious as they can, the most important piece of advice remains: find something you love doing. "It's not enough to pick something that will be marketable in five years," Smith of Eli Lilly says. "Pick something you really like and be the best in it." Maxwell of Eli Lilly says the same: "Identify the area of science that you like best. Is it bench science? Supervising? Leading a technical work force?" For Hays, success in industrial science starts with finding a company that "rewards what you find important."

Once there, women should not neglect the personal aspect of science. Mentoring continues in the workplace. One scientist says, "In some areas there still are few female role models, so don't choose your mentor based on gender alone. Choose people who are doing what you'd like to be doing. I've always found both men and women very open to that."

Human connection is important. One scientist says, "For some women, isolation can become an issue. You may be the only woman in your department—or you may be supervising other women, who see you not as a personal connection but as just another boss." Always it is important to "be your own support system," as Nair of PRI puts it. At many companies, like-minded people tend to find one another. Some companies, such as Bristol-Myers Squibb, encourage scientists to build interdisciplinary groups; many groups simply coalesce ad hoc. "In the old days," says one senior scientist, "we used to take each new female scientist out to dinner, as sort of a welcoming party. Now there are so many coming in, we can't do that any more."

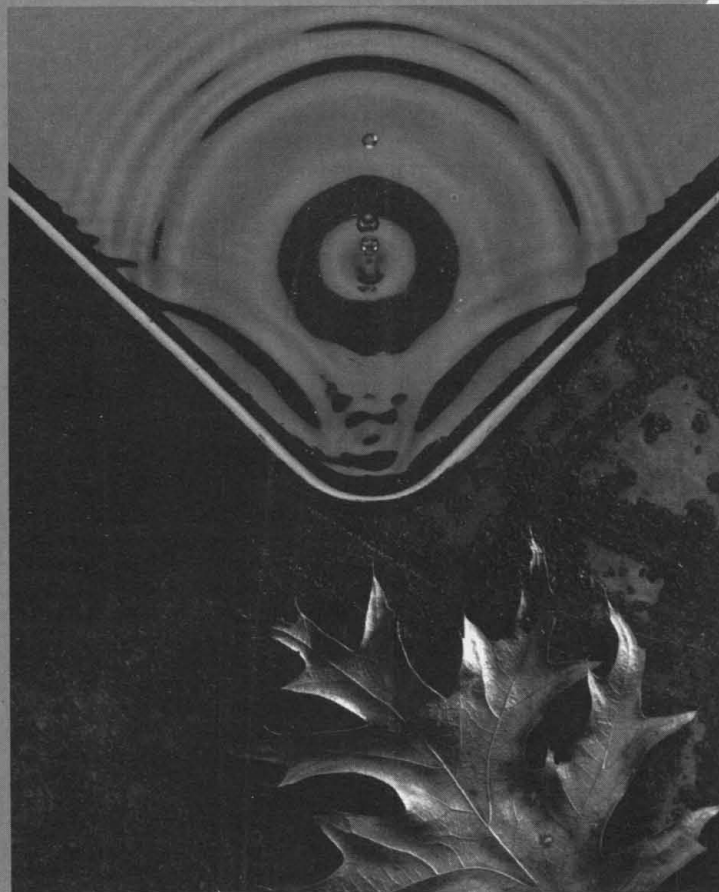
Our story has actually been two in one. The first is the larger tale of how women are steadily continuing to pervade industrial biopharmaceuticals. Against the pull of gravity, that trickle-up process continues definitely unfinished but proceeding by increments. Our second story has been that of individual women whose achievement, taste for diversity, and flare for communication have made them invaluable players in their fields. Michele Smith of Eli Lilly speaks for herself and for all women who do science when she considers the ideal: a workplace in which results alone determine success. "We're closer than we were, but there's always room for improvement," she says. "One thing is clear: results are what you have the most control over. The opportunities are there—you just have to decide to go after them."

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

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PROGRAM GUIDE

May 3: 11 am - 4 pm;
May 3 Seminar: 11 - 11:30 am
May 4: 12 noon - 4 pm

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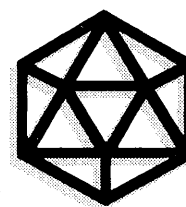
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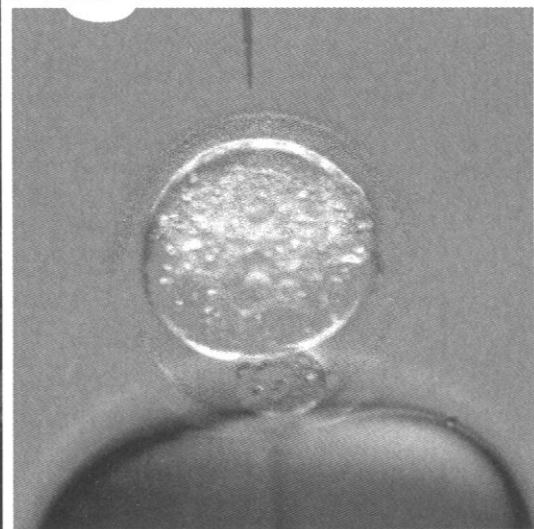
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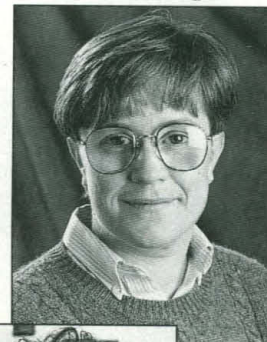
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SANDRA MOON, PH.D.
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PRINCETON, NEW JERSEY

Research Investigator. Metabolic Diseases. We are seeking an established scientist in the area of carbohydrate and fatty acid metabolism. Requirements include a Ph.D. in a relevant discipline, 2-5 years experience as well as experience in state-of-the-art whole animal metabolic kinetic methods. Experience with animal models of diabetes and obesity would be an asset. **Ref. #BM-420.**

Oncology Drug Discovery. Several oncology research positions are available in both drug discovery and exploratory research for highly motivated individuals with a B.S. or M.S. and 1-5 years research laboratory experience. Successful candidates will possess skills, experience, and a good working knowledge in molecular biology techniques (DNA cloning, DNA/RNA isolation, PCR, western blotting, immunoprecipitation, bacterial protein expression). Additional experience in one or more of the following areas is desired: protein biochemistry, cell biology, eukaryotic cell culture or molecular genetics. **Ref. #TG-404.**

Oncology Drug Discovery. This position is responsible for the cultivation of embryonic stem (ES) cells and the establishment of ES cell lines. Overall experience in tissue culture techniques including the maintenance of proper sterile procedures (routine mycoplasma and bacteria testing), quality control for tissue culture supplies (fetal calf serum, calf serum, defined media) and maintaining records/protocols is required. Candidates should have a B.S. or M.S. and a minimum of 2-4 years related experience. Additional experience in transfection techniques, blastocysts aggregation and manipulation of embryos would be an asset. **Ref. #TG-405.**

Princeton, NJ and Wallingford, CT Combinatorial Drug Discovery

Computational Scientists. We are seeking a Ph.D.s with post-doctoral experience and expertise in molecular modeling, computer programming, database applications, statistics and medicinal chemistry. This also involves developing/implementing innovative computational technologies for the design of combinatorial libraries. Candidates will work in a collaborative environment with medicinal chemists and data management scientists. Positions for Synthetic Chemists - Ph.D. level are also available. **Ref. #BM-132**



SUSAN MANLY, PH.D.
Group Leader
Biomolecular Screening
Drug Discovery - Wallingford, CT

Please forward/fax your resume with Ref. code # to: Bristol-Myers Squibb Pharmaceutical Research Institute, Human Resources, P.O. Box 11279, Trenton, NJ 08620-0279. FAX: 609-581-8841.



PAMELA TRAIL, PH.D.
Group Leader, Immunotherapeutics
Drug Discovery - Princeton, NJ

WALLINGFORD, CONNECTICUT

Research Scientists/Investigators. Participate in basic and applied research to evaluate targets for the therapeutic intervention of viral diseases. Positions require a B.S./M.S./Ph.D. degree and at least three years of research experience with molecular biology or biochemistry techniques since their degree. Candidates with prior experience in virology or organic synthesis are desirable. **Ref. #HDV-257-A.**

Protein Biochemist. Antiviral Drug Discovery. Join a multidisciplinary team exploring new viral targets and developing novel therapeutics against a variety of human viruses. Candidates must have a Ph.D. and at least 3 years postdoctoral experience, established expertise in biochemistry and have experience with protein purification and enzyme analysis. **Ref. #HDV-257-B.**

Medicinal Chemists. We are looking for creative synthetic organic chemists to participate in the drug design and discovery process in both a classical medicinal and combinatorial chemistry environment. **Ref. #HDC-28.**

Please forward/fax your resume with Ref. code # to: Bristol-Myers Squibb Pharmaceutical Research Institute, Human Resources, P.O. Box 5101, 5 Research Parkway, Wallingford, CT 06492-7661. FAX: 203-284-7762.

SEATTLE, WASHINGTON

Biological Process Research Organization

Research Investigator. We are seeking a Ph.D. in Biophysical or Protein Chemistry with 0-4 years postgraduate experience. Experience in fluorescence, UV, CD, light scattering, and mass spectroscopy is essential. Experience in chromatography, electrophoresis, calorimetry, immunological assays, FT-IR, NMR, and molecular graphics desired. In this position, you will develop and conduct methods for the folding of therapeutic proteins expressed in bacterial systems; study protein stability and develop formulations for protein therapeutics; and evaluate and study protein structure using biophysical methods and theoretical predictions. **Ref. #36**

Process Design Scientist. We are seeking a Ph.D., preferably in Biochemical Engineering; MS/BS considered w/at least 5 years industrial bioprocess development and design experience, experience purifying recombinant proteins and familiarity with bioanalytical techniques (SDS-PAGE, ELISA, etc.). In this position you will design efficient, robust integrated bioprocesses (from cell culture or fermentation through purification) to produce recombinant protein for transfer to early phase clinical production group; specify experimental cell culture reactor, microbial fermentor and BIOCAD experiments; and specify written Manufacturing Control instructions such that in-house Operations group can manufacture recombinant protein. Will be involved in preliminary scoping activity of new projects to produce recombinant proteins and reviewing batch records to identify/evaluate production anomalies. **Ref. #96-0219**

Please forward/fax your resume with Ref. Code # to: Bristol-Myers Squibb Pharmaceutical Research Institute, Human Resources, 3005 First Avenue, Seattle, WA 98121. FAX: 206-727-3606.



**Bristol-Myers
Squibb Company**

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The scientists at Roche Bioscience work in focused research groups to

discover and develop innovative pharmaceuticals that significantly improve

YOU CAN IMPROVE THE QUALITY

the quality of life. Our neurobiology group is exploring innovative means to

address peripheral nervous system disorders including prostate disease,

incontinence and pain. The inflammatory diseases group is using their exper-

OF OTHERS LIVES WHILE PURSUING

tise in cell biology and endocrinology to create advanced compounds to treat

osteoporosis, rheumatoid arthritis and other inflammatory conditions. As a

research-based business-driven organization, patents, publishing and profit

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all matter. However, each group is staffed so employees can concentrate on

scientific development. Scientific Researchers. Join us. And let's get to work.

POSTDOCTORAL FELLOW, ASTHMA RESEARCH

SCIENTISTS, OSTEOPOROSIS & ENDOCRINE RESEARCH

PROGRAM MANAGER, DRUG REGULATORY AFFAIRS

RESEARCH SCIENTISTS/ASSOCIATES

NMR Spectroscopy • Radiochemistry • In vivo Pharmacology

Metabolism/Bioanalysis • Toxicology • Computational Chemistry

Analytical & Pharm Chemistry • Preclinical Research

For more details about the opportunities listed above, see us on the WWW at:

<http://www.roche.com/bioscience>

We offer competitive salaries, relocation assistance where appropriate, and generous benefits. Send your resume, indicating position, to Roche Bioscience, Dept. SCI0426, 3401 Hillview Avenue, MS A2-HR, Palo Alto, CA 94304.

Fax: 415-424-8159. We are an equal opportunity employer committed to a diversified workforce.

We Depend On The foresight Of Our Scientists.

It takes vision like theirs to make a world-class company.

With more than \$10 billion in annual sales, thousands of products being marketed in 130 countries, and 50,000 employees worldwide, Abbott Laboratories has forged a century-long record of achievements in the health care industry.

And in the process, we've created an open environment where women scientists are essential contributors to every aspect of our success. From the initial phases of research to the final stages of development, these professionals are the ones who are bringing the next generation of health care products to market. And they will continue to make a difference in the lives of people worldwide.

This is why we provide the very best in both personal and professional challenges. It's our way of ensuring that all scientists have every opportunity to expand their abilities, and advance their careers.

If you are a BS, MS or PhD level research scientist, and want to have an impact on the quality of health care worldwide, consider a career with Abbott.

To find out more about the opportunities Abbott can offer you, send your resume to: **Abbott Laboratories, Job #96-SCI-000C, D-393, AP51, 200 Abbott Park Road, Abbott Park, IL 60064.** Abbott is an Affirmative Action Employer/Smoke-Free Environment.

*** Please plan to visit our booth at the bioScience Career Fair at Stanford University, May 3 & 4.**

"Abbott has a strong and positive policy towards supporting diversity and mentoring from within."

Cecilia Kimberlin

Director, Diagnostics Division



"It is rewarding to work for a company that is committed to the overall advancement of health care."

Gayle Kirkpatrick

*Program Manager,
Hospital Products Division*



"The ability to interact with scientists from various disciplines provides many opportunities for career development."

Liz Kowaluk

*Project Leader,
Pharmaceutical Products Division*



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Quality Health Care Worldwide

IN IT FOR LIFE

Improving life by advancing science.

Since opening our doors back in 1980, Genetics Institute has discovered a prodigious number of novel regulatory proteins. To date, nine of these have advanced to human clinical evaluation or commercialization. Fueling the pipeline, are R&D programs addressing blood cell growth and differentiation, coagulation, tissue growth and repair and immune modulation among others.

Our success as one of the largest biotechnology employers in Massachusetts is greatly fueled by our collaborative work environment driven by values and focused on the future. It attracts and inspires some of the brightest people whose ideas establish us as a leader.

Few biotech companies have been able to sustain growth, financial strength and a steady flow of scientific breakthroughs. Genetics Institute has combined top talent, a world-class manufacturing facility, a solid financial profile and the most sophisticated resources to make the prospects for continued innovation unprecedented.

So when you consider why you chose the sciences, consider the company positioned to make an impact - Genetics Institute.

As we continue improving existing products and developing new ones, we have opportunities in the following areas:

- Discovery Research
- Small Molecule Drug Discovery
- Preclinical Research and Development
- Clinical Development
- Process and Product Development
- Post Doctoral Programs

To be considered for current or future job openings, please only forward original resumes, suitable for scanning to: Human Resources Department, Genetics Institute, Inc., 87 CambridgePark Drive, Cambridge, MA 02140. Fax: (617) 498-8089 or (617) 876-8847. E-mail address: jobs@genetics.com Please see our home page: <http://www.genetics.com>

Genetics Institute offers competitive salaries and benefits, including comprehensive health care, dental and life insurance, three weeks' paid vacation, 401(k) stock purchase plan, relocation assistance, tuition assistance, and an on-site exercise facility. Genetics Institute is dedicated to building strength through diversity.



Harnessing the Body's Power to Heal™



Antimicrobial Peptide Development

IntraBiotics is a young biopharmaceutical company addressing the crisis in infectious disease caused by both the resistance of pathogens to existing antimicrobials and the emergence of newly recognized pathogens. The company's mission is to develop novel, peptide antimicrobials to treat infectious diseases.

Analytical Chemists — BS or MS in chemistry or related field and at least 2-5 years of relevant industrial experience. Will develop analytical methods for peptide drug substances and products, conduct stability studies, assist in establishing and maintaining the laboratory's regulatory requirements and prepare documents for FDA submissions.

Formulation Scientist/Group Leader — Ph.D. in pharmaceutical science and at least 4-6 years of relevant industrial experience in semisolid, parenteral and/or liposomal formulations. Responsible for the development of formulations and delivery methods for parenteral and locally applied products, and for the contract manufacture of peptide products.

Peptide Scientist — Ph.D. in organic chemistry with at least 2 years of postgraduate experience in peptide and peptidomimetic chemistry. Will work on the design and synthesis of peptide analogs as part of an SAR program using molecular modeling.

Microbiology — BS or MS in a biological science and at least 5 years of relevant experience. Will work with minimal supervision to develop biological assays using primary and continuous mammalian cell cultures and bacteriology to evaluate product candidates.

Immunology — Ph.D. in immunology with 3-5 years of relevant industrial experience. Will help establish new program on methods to treat intracellular pathogens. Experience with virology also desirable.



INTRA BIOTICS

The successful candidates will have strong motivation to transfer their substantial experience to the rapidly changing environment of a start-up company. The ability to work effectively as part of an interdisciplinary team is key to all positions. The company offers significant equity participation and competitive salaries and benefits. Please send CVs in confidence to: **Human Resources, IntraBiotics Pharmaceuticals, Inc., 816 Kifer Road, Sunnyvale, CA 94086.**

BREAKTHROUGH THE CAREER MARKET!

**Meet with PE Applied Biosystems
at the bioSCIENCE Career Fair,
May 3-4, on the Stanford Campus
in Palo Alto, California**

At PE Applied Biosystems, we're making some of the biggest breakthroughs in science come to life. From advances on the Human Genome Project, to accelerated opportunities in bioresearch, we offer scientists the chance to break into an exciting career as a member of our breakthrough team. Join us at the bioScience Career Fair and learn about our current openings in:

RESEARCH & DEVELOPMENT CONSUMABLES DEVELOPMENT & MANUFACTURING

Don't miss this chance to meet with us face-to-face and cut through the competitive career marketplace with a personal opportunity to learn about PE Applied Biosystems. For those who won't be able to attend, we invite you to send your resume and cover letter to: PE Applied Biosystems, HR Department, 850 Lincoln Centre Drive, Foster City, CA 94404. You may also fax to (415) 638-5874, e-mail us at biocareer@perkin-elmer.com, or see our home page on the WWW at <http://www.perkin-elmer.com>. PE Applied Biosystems is an equal opportunity employer.

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FDA Scientists

Typical positions at the Food and Drug Administration's Center for Drug Evaluation and Research include:

Chemists • Pharmacologists • Microbiologists

Scientists review and evaluate the results of studies submitted in support of New Drug Applications (NDA), Investigational New Drug Applications (IND), and amendments, to assess the safety of the drug, based on experiments conducted by the investigator. Review of the data includes evaluation of the quality and adequacy of testing to ensure that the studies support the manufacturers' claims for safety, and review recommended dosage levels to determine margin of safety for clinical use. Prepare comprehensive summaries of the data reviewed, and submit recommendations and conclusions for approval.

Qualifications: Specific course work in the field of study and professional experience or directly related postgraduate education is required. Ph.D. or Masters degree highly desirable. Experience in the development, manufacture or testing of drugs is desired.

Positions may be filled by scientific fellows (permanent residents within 4 years of obtaining citizenship) or permanent civil service appointments which require U.S. citizenship.

Salary: Civil Service salary range for GS-11 through GS-13 is \$37,094 to \$68,729. Salary, benefits, and level of responsibility are commensurate with education and experience.

How to Apply: Interested candidates should send a cover letter indicating position SRC 96079, and a detailed curriculum vitae along with a copy of college transcripts to:

**DHHS/PHS/Food and Drug Administration
Center for Drug Evaluation and Research
7520 Standish Place; HFD-64, Room 225
Rockville, MD 20855
Attention: Recruitment Staff
(301) 827-3671 (FAX)**

FDA is an Equal Opportunity Employer and has a smoke-free environment

CUTTING EDGE SCIENCE



Genentech offers an exceptionally creative and productive environment focused on quality science. As the leading biotechnology company in the discovery, development and manufacture of human pharmaceuticals for significant unmet medical needs, our product pipeline is the richest in the industry and we are the only biotech company with six marketed products. We currently have the following excellent opportunities available in our South San Francisco headquarters.

Scientist, Hybridoma Development

The hybridoma group at Genentech produces, characterizes and applies monoclonal antibodies to support therapeutic proteins in Research Development and Marketed Products. We seek a highly motivated individual to lead a group of 3-5 RAs in the development of novel monoclonal antibodies. To qualify you should have a PhD or equivalent in Immunology, Biochemistry or Molecular Biology and at least 5 years of relevant scientific experience in one of the following general areas: immunochemistry, assay development, immunoglobulin gene molecular biology or cell biology. A proven track record of managing at least 3 individuals and a desire to lead a very productive and experienced technical staff is essential. Job code: MCBF

Research Assistants and Associates

We have a number of opportunities for Research Assistants and Associates with a minimum of 1 year experience and a BS or MS degree in a relevant scientific discipline. You will work on research projects that require:

- * Extensive experience with molecular biology techniques and creation and characterization of transgenic models.
- * Hematopoiesis, ES cell manipulation or transgenic technology.
- * Preclinical studies including model development and preliminary assessments of PK, metabolism, distribution, efficacy and safety for proteins and small molecules.
- * Protein chemistry, liquid chromatography, filtration, protein analysis and quantitation, UV/VIS spectrophotometry, SDS-PAGE and tangential-flow filtration.
- * HPLC/FPLC, Western blots and general antibody techniques.
- * Mammalian cell culture and maintenance, growth characteristics, cryopreservation and aseptic techniques.

Job code REVS/MC

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

Genentech, Inc.

A Partnership Worth Discovering

Cygnus, a recognized leader in the discovery, development and manufacture of diagnostic and drug delivery systems, invites creative and committed professionals to join our strong partners and help advance the commercialization of our Transdermal Drug Delivery and Glucose Monitoring product lines.

NON-INVASIVE GLUCOSE MONITORING PROJECT

Cygnus recently entered into a marketing collaboration with Becton Dickinson for a non-invasive glucose monitoring device, now in development at our Redwood City, California, headquarters. You can contribute to the development and commercialization of GlucoWatch™ in one of these challenging roles:

Senior Engineer

In this position, you will develop a method for detecting and measuring perspiration in miniaturized commercial products. BSEE or Bioengineering and 5 years' related experience in the development of electronic medical devices are required.

Process Development Engineers - Hydrogel

Pivotal position in support of the manufacture and development of our hydrogel products. Requires significant background in hydrogel development.

Senior Validation Engineer

As the most senior QC team member, you will calibrate and validate our equipment and systems. Familiarity with GMP and GLP requirements, process development and optimization of equipment, software validation and qualification of MRP, MRP II LIMS or SCADAS systems a must.

TRANSDERMAL DRUG DELIVERY

Our transdermal drug delivery systems are being designed to improve drug therapy and reduce health care costs. Our partnerships with J&J, Warner Lambert, Pharmacia and American Home Products require additional expertise in the following areas:

Transdermal Development Scientist

Identify and characterize product platforms as part of a project team. Adhesive/gel, polymer processing and converting experience required.

Analytical Manager

Group responsibility to support transdermal drug development process from feasibility through commercialization. 10 years' related experience required.

Automation Manager

Lead analytical research group in the acquisition, implementation, validation and training for automated analytical testing systems, hardware, software and documentation. Requires substantial experience in automated lab systems, robotics and management in the pharmaceutical industry.

Process Development Engineers/ Manufacturing Engineers

Utilize converting and processing skills to scale up transdermal products for manufacturing. Requires capabilities in mixing, coating, laminating, die-cutting, pouching and drying and an understanding of statistical analysis and the design of experiments. 5-10 years' experience required.

Our San Francisco Bay Area location will situate you in the heart of California's bio-science community, which is also known for its natural beauty, Mediterranean climate, and many cultural and lifestyle amenities. Cygnus offers competitive salaries and compelling benefits designed to provide for your present and future needs. Among them are a bonus plan, stock options, 3 weeks' vacation and a variety of health/dental plan choices. Please send your resume, indicating position of interest, to: Cygnus, Inc., Human Resources, 400 Penobscot Drive, Redwood City, CA 94063, fax (415) 599-3938. EOE.

PLEASE VISIT CYGNUS' REPRESENTATIVES AT THE bioSCIENCE CAREER FAIR ON THE STANFORD CAMPUS, MAY 3 & 4.



CYGNUS®



ORQUEST, Inc.

Orquest is an innovative biomedical company pioneering matrix technology for bone and cartilage regeneration. We are seeking high performance scientists with 1-5 years of industry experience and the ability to work across disciplines in an aggressive product environment.

Product Development Director. Senior Scientist with exceptional management abilities to lead product development team. Requires: Ph.D. in relevant discipline; project management experience in biotechnology or pharmaceutical industry; ability to meet aggressive project timelines; and experience in developing formal design records. Also requires experience in design and management of non-clinical animal and biocompatibility studies to support regulatory submission, and ability to present to senior management and advisory boards. Ideal candidate has proven experience taking products from inception to manufacturing in compliance with Class III medical device requirements. Reports to Vice President, R&D.

Senior Scientist, Cartilage Regeneration. Supervise and conduct hands-on research in the evaluation of matrices for the *in situ* regeneration of cartilage tissue. Requires: Ph.D. in the biological sciences; 5-8 years of academic or industry experience; and strong publication record in peer-reviewed journals. Also required are strong oral and written communication skills and the ability to work independently in the supervision of a research team. Familiarity with the design and management of *in vitro* and *in vivo* models of cartilage repair essential. Reports to Director, Bone and Cartilage Research.

Matrix Fabrications Scientist. Product Development Engineer responsible for fabricating carriers and matrices for *in vivo* and clinical evaluation. Requires: Ph.D. or MS in bioengineering, chemical engineering, material science, or chemistry; and hands-on, independent work style. Ideal candidate has experience in techniques for matrix fabrication and apparatus design. Reports to Director of Product Development.

Visit us at the SCIENCE/Stanford University Career Fair for more information on these and other openings. Orquest is located in the SF Bay Area north of San Jose. We offer competitive salaries and a generous benefits package including incentive stock options. Send CVs to:

Human Resources

365 Ravendale Drive

Mountain View, CA 94043

Fax: 415-903-1959

EOE

BIOCHEMIST

Merck Research Laboratories in West Point, Pennsylvania, a world leader in biological and pharmaceutical research, has an immediate opening for a Senior Research Biochemist in the department of Antiviral Research to provide basic biochemical research support to its drug discovery program.

The successful candidate must have experience conducting independent research in the biochemistry of proteins involved in viral replication including the development of in vitro assays and protein purification. A PhD in Biochemistry or equivalent with a minimum of 2-3 years of post-doctoral experience is required. Experience with protein-nucleic acid interactions is desirable. Willingness to work with biological materials is essential.

Excellent salary and benefit programs accompany this position at our modern research facilities located 25 miles northwest of Philadelphia. Please send curriculum vitae with cover letter to: **Personnel Manager, Ad#B-47, MRL Human Resources, WP42-2, Merck Research Laboratories, P.O. Box 4, West Point, PA 19406.** Only qualified candidates will be contacted. EEO/AA/VH Employer.



INJURY → INFLAMMATION → FIBROSIS

FIBROGEN, INC. is dedicated to the creation and development of novel therapeutics and biomaterials based on connective tissue biology, we have two major development platforms: anti-fibrotics and production of recombinant human collagen.

We need to add the following capabilities to our rapidly growing worldwide team of scientists.

GROUP LEADER (PH.D./MD MOLECULAR BIOLOGY). Experienced molecular biologist, for the cloning and expression of major connective tissue components, cytokines; experience with different expression systems.

SCIENTIST (PH.D.+ IN MOLECULAR BIO/BIOCHEM). Experience in recombinant DNA sequencing and isolation; expression of recombinant proteins.

BIOLOGIST (PH.D.). Experience with the molecular and cellular aspects of fibrosis; animal models, cell matrix interactions, extracellular matrix and/or protein expression.

SCIENTIST (PH.D. TISSUE CULTURE/RECOMBINANT PROTEIN PRODUCTION). Experience with bioreactors; multiple expressive systems, and GMP production.

RESEARCH ASSOCIATE (MS+ IN BIOCHEM) COLLAGEN BIOMATERIALS. Characterization of proteins (collagen); experience in protein biochem.

DIRECTOR RESEARCH OPERATIONS (PH.D. IN BIOLOGY, BIOCHEMISTRY & MOLECULAR BIOLOGY RELEVANT TO CONNECTIVE TISSUE). Supervise the activities of the scientific teams. Ability to directly carry out a relevant development project.

VICE PRESIDENT, BUSINESS DEVELOPMENT (PH.D./MBA). In addition to the above positions, we also seek a high level professional to conduct business transactions and external research collaborations. Prior experience in corporate pre-clinical and clinical development as well as licensing of products.

If you enjoy the challenge of a start-up and thrive in a world of first class science and scientists, send your CV to: **FibroGen, Inc., 772 Lucerne Drive, Sunnyvale, CA 94086 or fax to: (408) 720-7212 EOE.**

FIBROGEN

POST-DOCTORAL RESEARCH OPPORTUNITIES

Boehringer Ingelheim Pharmaceuticals, Inc. is seeking outstanding Scientists to conduct Drug Metabolism Pharmacokinetics (DMPK) research in a pharmaceutical R&D environment. Explore these opportunities for post-doctoral research in surroundings where creativity and innovation drive the search for novel drug therapies targeting critical human diseases with unmet therapeutic needs.

The following post-doctoral positions are available in our Department of DMPK. All applicants should possess a Ph.D. or M.D. in a Biomedical discipline, highly developed analytical abilities, and excellent oral and written communication skills.



**Boehringer
Ingelheim**

DRUG METABOLISM PHARMACOKINETICS

Post-doctoral position available to investigate the molecular basis for variability in drug metabolism, specifically focusing on study of the mechanism of induction by barbiturates or on the search for genetics polymorphisms in conjugation enzymes. A strong background in drug metabolism is essential, while experience in biochemical techniques, enzymology, cell culture, molecular biology and use of general in-vitro technology is desired. (Respond to: Dept. BB-RD-PD5)

ANALYTICAL BIO-ASSAY DEVELOPMENT

This post-doc will develop new assays and technologies in immunoassays, enzyme-linked assays, and receptor-derived assays for the quantitation of new chemical and existing chemical entities for pharmacokinetics. Will also be responsible for training junior scientists in these areas, participating in departmental research and supervision, and conducting research leading to reports, submissions, and publications. (Respond to: Dept. BB-RD-PD6)

Boehringer Ingelheim's R&D facility is located in a campus-like setting in a beautiful area of Western Connecticut. We offer excellent facilities and a supportive and challenging environment. For an opportunity to contribute to our innovative programs, please send your curriculum vitae, a brief description of research experience, the names, addresses, and telephone numbers of three references, and indicate the appropriate response information in the address, to: **Boehringer Ingelheim Pharmaceutical, Inc., Dept. _____, 900 Ridgebury Road, P.O. Box 368, Ridgefield, Connecticut 06877-0368.** We are an equal opportunity employer. As a progressive health care company, we have a non-smoking environment.

GenoMed is a newly formed genomics company focusing on the discovery of genes and genomic pathways responsible for major human disorders. The company was founded by physicians and scientists at Cedars-Sinai Medical Center and UCLA to focus on multi-genic disease including osteoporosis, atherosclerosis, obesity, diabetes, and the inflammatory bowel diseases. GenoMed is located in close proximity to the Cedars-Sinai Medical Center and UCLA campuses and provides an excellent location for genetic research. An excellent scientific team is in place and additional openings are immediately available in the following departments:

MOUSE COMPARATIVE GENETICS

Director

Individual will be responsible for conducting and leading research for mapping, identifying, and characterizing genes underlying complex traits in mouse and other rodent genetic models of human disease. Ability to lead research programs and work effectively with external collaborators and other scientists at GenoMed is essential. Candidates should have a Ph.D. in Genetics, Molecular Biology or related field, and relevant post-doctoral experience with proven publication track record in the study of mouse genetics. Ideal candidates will have several years of experience leading and managing research programs in mouse genetics, preferably in an industrial setting. **Code: MGS-1**

Research Scientists

Openings are available at the Ph.D. level for scientists to conduct research in support of GenoMed's mouse genetics research programs. Candidates should have a familiarity with mouse genetics/transgenics, and good animal handling skills and knowledge. Experience and interest in areas of metabolic diseases and/or autoimmunity is desirable. Requirements include Ph.D. in Genetics or Molecular Biology, with relevant post-doctoral experience and publication track record. Ability to work as part of a multidisciplinary team with GenoMed's research staff and external staff is a must. **Code: MGS-2**

Research Associates

Openings are available for individuals to conduct research in support of the mouse comparative genetics research efforts. BS/MS in Biology and relevant work experience are required. Ideal candidates will have good animal handling skills and an interest in and knowledge of genetics with an ability to perform a variety of phenotypic, biochemical and physiological assays. **Code: MGS-3**

POSITIONAL CLONING

Director

Individual will be responsible for managing research efforts focused on the identification of genes responsible for complex diseases. Candidates must have a proven track record in the identification and characterization of genes using positional cloning techniques as well as expertise and interest in metabolic disease, cardiovascular disease or autoimmune disease. Requirements include a Ph.D. in Genetics, Molecular Biology or related field, relevant post-doctoral experience, and the ability to work internally with multidisciplinary teams and with external scientific collaborators. Ideal candidates will have several years of experience leading and managing research programs. **Code: PCS-1**

Research Scientists

Openings are available at the Ph.D. level for scientists to conduct research in support of GenoMed's positional cloning efforts. Candidates should have "hands on" expertise in all areas of positional cloning as well as experience and interest in metabolic disease, cardiovascular disease, or autoimmune disease. Excellent communication skills and the ability to work with GenoMed's other researchers and with external collaborators are a must. Requirements include a Ph.D. in Molecular Biology, Genetics or related field, with a proven publication track record and relevant post-doctoral experience. **Code: PCS-2**

Research Associates

Openings are available for individuals to conduct research in support of GenoMed's positional cloning efforts. BS/MS in Biology and relevant work experience are required. Ideal candidates will have good cloning skills, an interest in and knowledge of genetics and "hands on" experience in YAC, BAC, and/or PAC manipulation and screening. **Code: PCS-3**

BIOINFORMATICS/COMPUTATIONAL BIOLOGY

Several openings are available for computational scientists to support GenoMed's Generic Research Programs in its Bioinformatics Department.

Director

Candidates require broad experience in genomic and computational sciences and will be required to develop and manage GenoMed's Bioinformatics Department. Individual must be able to manage a multidisciplinary group consisting of analysts, software engineers, and biologists, and must be able to work effectively with a network of external collaborators. Additionally, this position requires departmental integration with GenoMed's research departments and project teams. Relevant work experience and proven track record of management and integration are required. **Code: BIS-1**

Genetic Epidemiologist/Statistical Geneticist

An opening is available for a Genetic Epidemiologist/Statistical Geneticist with a strong interest in genetic mapping of complex traits in humans as well as model systems. Individual will take a leading role in study design and data analysis in a number of disease areas. Expertise in the application of parametric and non-parametric methods is essential, and an interest in developing new methods for data analysis is desirable. Individual will work closely with other scientists working in human and mouse genetics, bioinformatics, molecular endocrinology and immunology, as well as with external collaborators. Ph.D. (or equivalent) in Genetics or a related area, several years of post-doctoral experience relevant to genetic epidemiology and statistical genetics, and a record of publications in this area are required. **Code: BIS-2**

Bioinformatics Scientist

Responsibilities include providing information retrieval for enhancing GenoMed's genetic research efforts. Ideal candidates will have a broad familiarity with a large number of genetic databases and algorithms and a working knowledge of UNIX. Excellent communication skills and ability to work with a number of different teams is a must. Higher degree (Ph.D. or MS) and relevant work experience is required. **Code: BIS-3**

Database Associate

Responsibilities will include management of the input/output of data from a relational database to outside collaborators and assistance in maintaining data integrity of the current data in the database. Additional duties include end-user and systems support, testing new software that accesses the database, and provision of back-up support as needed for writing reports and supporting in-house users. **Code: BIS-4**

SEQUENCING AND GENOTYPING

Director

Individual will be responsible for managing and leading GenoMed's sequencing and genotyping facility. In addition to experience in high-throughput automated sequencing and genotyping, candidates will have expertise with state-of-the-art sequencing algorithms for genomic sequencing projects and analytical algorithms for gene identification/characterization efforts. Good communication skills and ability to interact with multidisciplinary groups within GenoMed and with external collaborators are musts. Requirements include higher degree (Ph.D. or MS) and several years of relevant work experience managing large-scale sequencing and genotyping projects. **Code: SGS-1**



GenoMed
The Phenomics™ Company

Interested candidates, please send resume to: *GenoMed, Inc., Human Resources, Code _____, 150 North Robertson Blvd., Suite 360, Beverly Hills, CA 90211; Fax: (310) 358-3442. An Equal Opportunity Employer.*

Roche

DISCOVERING THE FUTURE IN PHARMACEUTICALS

POST-DOCTORAL OPPORTUNITIES

Hoffmann-La Roche's dedication to the future is evident in our commitment to the research, development and manufacture of pharmaceuticals worldwide. We currently have the following opportunities available for dedicated, experienced scientific professionals to join us in our U.S. headquarters in Nutley, New Jersey.

DEPARTMENT OF ANALYTICAL RESEARCH & DEVELOPMENT

The candidate will join an established protein analytical group responsible for preclinical research and development.

Major involvement will include the development of new methods to study protein-ligand interactions with the use of state-of-the-art microtechniques including (but not limited to): 2-D mapping; HPLC peptide mapping; mass spectrometry; N- and C-terminal sequencing and database analysis. The ideal candidate has a recent Ph.D. in Biochemistry or related field and a strong interest in protein analytical chemistry. (Respond to: Dept. SS316YP)

BIOPHARMACEUTICAL DEPARTMENT

The Biopharmaceutical Department is involved in the production, recovery/purification processes of recombinant proteins and polymer conjugated biotherapeutics. Another function of the department is the development of innovative and efficient bioprocessing technologies and their implementation in manufacturing. There is a strong interaction between interdisciplinary teams of scientists.

The successful candidate will be responsible for the use of phage display combinatorial libraries for the identification and synthesis of ligands comprised of structured peptides suitable for use in the affinity purification of biopharmaceuticals. A Ph.D. in Biochemistry, Biology, Biological Engineering or related fields is required. (Respond to: Dept. SS326PB)

PROTEIN CRYSTALLOGRAPHY

The determination of high resolution crystal structures is critical to the role that structure-based drug design plays in the drug discovery process at Roche. Our structural studies support drug discovery for Preclinical Research in the areas of metabolic diseases, inflammation/autoimmunity and oncology.

Our established protein crystallography group, headed by Dr. Jens J. Birktoft, now has an opening for a postdoctoral research associate who should be well-trained in protein-crystallography and would benefit from participation in our multidisciplinary research projects. The research associate will have the opportunity to participate in proprietary and non-proprietary research projects as well as an independent project of mutual interest. The main focus of the research projects will be the determination of new crystal structures and protein-ligand complexes. However, opportunities may also exist in protein engineering, computational chemistry, and inhibitor design. Roche strongly encourages the conduct and publication of high-quality research. The candidate must have a Ph.D. in Biochemistry, Biophysics or a related field, and must have substantial experience in solving and refining protein structures. (Respond to: Dept. SS336JB)

We offer an attractive salary and benefits package in a state-of-the-art work environment. For consideration, please send your resume, indicating appropriate response code information in the address, to: **Ms. Stella Strazdas, Department _____, Hoffmann-La Roche, Nutley, New Jersey 07110-1199.** No phone calls please. **PRINCIPALS ONLY.** We are an equal opportunity employer.

Roche**Hoffmann-La Roche**

A Member of the Roche Group



St. Jude Children's Research Hospital

ALSAC • Danny Thomas, Founder

POSTDOCTORAL RESEARCH ASSOCIATE IN MOLECULAR PHARMACOLOGY

The laboratory is interested in defining signal transduction pathways involved in growth, differentiation and, most importantly, chemotherapeutic drug resistance in neuroblastoma. We are currently focused on the role TRK family receptors have in neuroblastoma, especially whether neurotrophins are involved in a novel mechanism of drug resistance. Candidates should be a recent Ph.D. graduate and have a strong background in applying molecular biology to signal transduction problems coupled with an interest in pharmacological approaches to elucidating signal transduction pathways. The institution offers a rich collaborative research environment with exceptional facilities. The position should provide an outstanding opportunity for career development in molecular pharmacology.

The position is available July 1, 1996. Interested candidates should send a curriculum vitae and the names of three references to Dr. David Middlemas, Department of Molecular Pharmacology, St. Jude Children's Research Hospital, P.O. Box 318, Memphis, TN 38101-0318. An Equal Opportunity/Affirmative Action Employer.

ANALYTICAL BIOCHEMIST

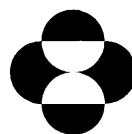
The Merck Research Laboratories is considered by many to be the premier research organization in the pharmaceutical industry based on its unparalleled success at creating important new pharmaceuticals and vaccines, which have been used to improve human health worldwide.

The Bioprocess R&D group is responsible for the development of processes and analytical techniques to be used for manufacture and release of all biologically-made new vaccine and drug candidates. We are looking for talented Ph.D. Biochemists, Virologists, Molecular Biologists and Molecular Immunologists at various levels of experience to join our group. The successful candidate would have the objective of gaining a more fundamental understanding of our processes, our analytical methods and our products, and of applying that knowledge to improve productivity and reproducibility.

The work is varied with the opportunity to work in a team which moves product candidates from Basic Research through process scale-up and Clinical evaluation to start-up in manufacturing. Current product candidates require the development of processes and analytical methods for polysaccharides, proteins, purified viruses, conjugates, and plasmid DNA.

Merck offers excellent salary and benefits programs for this position located in our research facilities 25 miles northwest of Philadelphia.

Please send curriculum vitae with cover letter and the names of three references to: **Personnel Manager, AD #B-49, MRL Human Resources, WP42-2, Merck Research Laboratories, P.O. Box 4, West Point, PA 19486.** Only qualified candidates will be contacted. EEO/AA/V Employer.



MERCK

Research Laboratories

THE NATIONAL RESEARCH COUNCIL *announces opportunities for* **Postdoctoral & Senior Research Associateship Awards** *available at the*

U.S. ARMY MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES

Awards sponsored by the National Research Council are available for research to be conducted at the U.S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Frederick, MD. Applications are invited from individuals interested in pursuing research on the mechanisms of microbial pathogenesis and host resistance to infection with *Yersinia pestis*, with use of molecular approaches (1) to study the role of plasmid- and chromosomally encoded virulence factors in the virulence of, and immunity to, *Y. pestis*; or (2) to identify mechanisms of innate and acquired resistance to *Y. pestis*.

Stipends begin at \$35,045 per annum and are appropriately higher for applicants with greater than 5 years' experience. Requirements: Ph.D. or equivalent. U.S. citizenship preferred; experience in microbiology, molecular biology and biochemistry would be advantageous. Awards are for 1 year with possible renewal for up to 3 years maximum.

FOR FURTHER INFORMATION CONTACT:

Dr. Susan Welkos, Bacteriology Division, USAMRIID Bldg. 1425
Ft. Detrick, Frederick MD 21702-5011

Phone: 301-619-4930 Fax: 301-619-2152

Email: dr._susan_welkos@ftdetrick-ccmail.army.mil

Applications, submitted directly to the NRC, are accepted on a continuous basis throughout the year. Those postmarked by August 15 will be reviewed in the October competition, by January 15, 1997 in February, and by April 15 in June.



FOR APPLICATION MATERIALS CONTACT:

The National Research Council
The Associateship Programs (TJ-2114/UA)
2101 Constitution Avenue, NW
Washington, DC 20418
FAX: (202) 334-2759 • Email: rap@nas.edu

VIROLOGIST: MOLECULAR VIROLOGY

NATIONAL INSTITUTES OF HEALTH:

Two post-doctoral positions will be available in the Respiratory Viruses Section of the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases. One position involves new genetic "rescue" systems for respiratory syncytial virus (RSV), and important pediatric pathogen. The systems involve helper-dependent "minigenomes" for detailed structure-function analysis of cis-acting genome structures and trans-acting proteins (see Grosfeld et al, J. Virol. 69:5677, and Collins et al, PNAS, in press, 1996), as well as an "infectious" clone for genetic engineering of infectious virus (Collins et al, PNAS 92,11563). This project addresses basic questions of RNA replication, gene expression, protein function, virion assembly, viral pathogenesis, and the molecular basis of attenuation. The second project involves a comparable "infectious" clone for parainfluenza virus (PIV) type 3, and the engineering of an available attenuated PIV3 virus as a vector for vaccines. These studies complement an active program with collaborators to develop RSV and PIV vaccines. New candidate vaccine viruses can be constructed by site-directed mutagenesis to contain attenuating mutations which have been identified from existing vaccine candidates or have been developed by basic studies. The infrastructure is in place to take successful candidate vaccines produced in the lab through to commercial licensure. These are unique opportunities to work on investigations that range from basic molecular biology to applied vaccinology. Salary will be commensurate with experience. Applicants should have no more than seven years of post-doctoral experience.

Qualified and interested physicians should send their curriculum vitae and names and addresses of three (3) references to:

Brian R. Murphy and Peter L. Collins, NIH, NIAID, LID; Bldg 7, Room 106, Bethesda, MD 20892-0720; Fax (301) 496-8312

NIH is an Equal Opportunity Employer



THE WINERY OF Ernest & Julio Gallo

POSTDOCTORAL

A Postdoctoral position is now available at E. & J. Gallo Winery in Modesto, California. The position will involve the genetic investigation of wine and grape microorganisms through the utilization of new molecular techniques. The position will be within the Microbiology Group, but will work closely with the Genetics Group. The applicant will be expected to focus on the use of molecular fingerprinting techniques to genetically characterize and compare selected microorganisms. The ultimate goal will be to examine resultant markers for their utility as diagnostic probes. As a member of the Microbiology and Genetics Group, the candidate will be expected to contribute and participate in other team projects as well. The applicant should possess a Ph.D. in genetics/biochemistry or a related area, and must have a strong background in fingerprinting, marker analysis and cloning. Experience with CPR-based diagnostic probe development would be highly desirable. Interested individuals should send a curriculum vitae, description of prior research, and three letters of reference to: Professional Staffing Dept.-PD, E. & J. Gallo Winery, PO Box 1130, Modesto, CA 95353. EOE M/F/H.



St. Jude Children's Research Hospital

ALSAC • Danny Thomas, Founder

CANCER PHARMACOLOGY ASSOCIATE MEMBER IN MOLECULAR PHARMACOLOGY

A Senior Faculty position is available for an outstanding scientist holding a Ph.D. or M.D. degree, with an established research program focused on molecular aspects of the biology or treatment of malignant diseases. Opportunities exist for the application of basic and translational research. Excellent support for continuing this program will be provided. Currently, the Molecular Pharmacology Department at St. Jude Children's Research Hospital is comprised of ten faculty with independent research programs investigating molecular targets of drug action, growth factor receptors, signal transduction pathways, oncogenes, tumor suppressor genes, apoptosis, nuclear trafficking, xenograft models, and their relationship to therapy of neoplastic diseases.

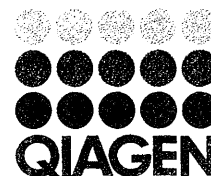
The campus, a renowned center for biomedical research, provides a state-of-the-art research environment encompassing the fields of molecular and cell biology, biochemistry, molecular pharmacology, neurobiology, genetics, virology, gene regulation, immunology, infectious diseases, pharmaceutical sciences, gene therapy, and clinical therapy of cancer. The two research towers presently house over 300 doctoral level laboratory and clinical scientists to provide an interactive and productive scientific environment. Extensive institutional core facilities are available to provide support for all laboratory and clinical programs, and include DNA and protein chemistry, transgenic/knockout technology, flow cytometry, hybridoma production, confocal and electron microscopy.

Candidates should send a CV, summary of research interests and the names of three references to: **Dr. Janet A. Houghton; Chair, Search Committee, Department of Molecular Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105-2794.**

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

The Department of Veterinary Pathobiology, Texas Veterinary Medical Center, Texas A&M University, invites applicants for at least three tenure-track faculty positions. Appointments will have approximately 70% effort in research and 30% effort in teaching/service responsibilities. Candidates will be expected to establish and maintain a vigorous and independent, extramurally funded research program. Research focus should complement the departmental themes of parasitology, mechanisms of infectious diseases, pathogenesis, and genetics of host resistance to disease. One position will require a DVM or equivalent degree, ACVP certification or eligibility, and participation in anatomic pathology teaching and necropsy/biopsy service as part of the position's 30% teaching/service effort. The additional positions require a Ph.D. or equivalent degree. The 30% teaching/service effort of these two other positions will be teaching at the undergraduate, professional, or graduate level in the respective areas of expertise. Appointments are for 12 months with a competitive salary, laboratory space, and start-up support available. Departmental core facilities include: automated DNA sequencing and oligonucleotide synthesis; flow cytometry; gene targeting/transgenic mice; morphometric analysis/gel documentation; and histology/immunohistochemistry/*in situ* PCR. College facilities provide an ACAS/Confocal/EM image analysis core. Academic disciplines of the department include parasitology, anatomic pathology, microbiology, immunology, clinical pathology, and molecular genetics. The department's approximately 45 faculty and 70 graduate students participate in diverse research activities including established campus-wide programs in genetics, toxicology, nutrition and neurosciences. Review of applicants will begin immediately and continue until these positions are filled. Applicants should send a curriculum vitae, a statement of research interests and goals, pertinent reprints, and a list of three references to: **Dr. Jim Womack, Chair of Search Committee, Department of Veterinary Pathobiology, Texas Veterinary Medical Center, Texas A&M University, College Station, TX 77843-4467. Telephone: (409) 845-9810, FAX: (409) 845-9972.** Additional departmental information, including current faculty interests, may be viewed via WWW at <http://cvm.tamu.edu/~vtpb>. *Texas A&M University is an equal opportunity employer committed to excellence through diversity, and encourages applications from women and minorities.*

QIAGEN, the world wide leader in nucleic acid purification, is seeking highly motivated and talented individuals to join our rapidly growing team. QIAGEN is committed to providing high quality, innovative purification products to the molecular biology and molecular diagnostic research communities.



Product Manager. Responsibilities include marketing conceptualizing, coordinating product launches, contacting customers, and supporting the sales team on PCR/QIAquick products. 30% travel is typical. Prior marketing/sales experience and outstanding communication skills are required. MS/BS degree and 2 years of lab experience in molecular biology or related fields. (Reference PM-0496)

Associate Product Manager — Genomic Sequencing. Expand your scientific horizons in a team dedicated to providing tools for the 21st century in the area of high-throughput DNA sequencing/genome analysis. Applicants should have an MS or PhD

degree in a molecular biology-related area and a minimum of two years experience in high-throughput DNA sequencing. Sales and marketing experience is a plus. (REF.APM/GS-0496)

Associate Product Manager — Molecular Biology. Take advantage of expanding opportunities in the molecular research markets! Applicants should have an MS/BS degree in a molecular biology-related field, significant molecular biology-related laboratory research and/or two years of sales or marketing experience that includes DNA purification products. (REF.APM/MB-0496)

For both APM positions, responsibilities include marketing conceptualization, coordinating product launches, contacting customers, and supporting the sales team. 30% travel is typical. Outstanding communication skills are required.

Technical Support Specialist. Responsibilities include providing technical support for QIAGEN's complete product lines. Additional duties include providing technical training for internal and external customers, and writing and editing technical literature. Must have PhD/MS/BS degree and at least 2 years of lab experience in Molecular Biology or related discipline and outstanding communication skills. Experience in recombinant protein expression and purification is desirable. (REF.TSS-0496)

QIAGEN is a rapidly growing, highly successful company located in the western San Fernando Valley. The corporate atmosphere is friendly and informal, and provides a team working environment. QIAGEN offers competitive salaries, a comprehensive benefit package including a 401(k) plan, and is committed to aiding employee personal and professional development with sponsored continued education. If you think you have what it takes to contribute to QIAGEN's continued success, take this opportunity to become part of the QIAGEN team.

Send resumes to **Human Resources/(Ref. No.), QIAGEN INC., 9600 Desoto Ave., Chatsworth, CA 91311, FAX 800-718-2056**

Roche

PATHOLOGIST

Hoffmann-La Roche is a leader in the pharmaceutical and health care industries. We are seeking an experienced Toxicologic Pathologist to join the Department of Toxicology and Pathology in our Nutley, New Jersey headquarters. Our pathology laboratories are well-equipped and highly automated for work in clinical pathology, histopathology, immunohistochemistry, electron microscopy, and image analysis.

Working under GLP regulations, the successful candidate will apply knowledge and skills in morphologic and experimental pathology to a variety of studies and problems in preclinical safety assessment, mechanistic toxicology, animal models, and drug discovery. Results of studies are presented to management and regulatory authorities as study reports, submissions to regulatory agencies, and verbal presentations.

To qualify, you must have a Veterinary or Medical Degree with a minimum of 5 years of drug development experience. Preference will be given to candidates with a Ph.D., ACVP certification, computer literacy, effective communication skills and supervisory experience. The ability to organize and interpret scientific information is important. The successful applicant will be an effective problem-solver who works well with others.

We offer an attractive salary and benefits package in a state-of-the-art work environment. For consideration, please send your resume with salary requirements to: **Ms. Lynn Harac, Department LH196LA, Hoffmann-La Roche, Nutley, New Jersey 07110-1199. PRINCIPALS ONLY.** No phone calls please. We are an equal opportunity employer.

Roche**Hoffmann-La Roche**

A Member of the Roche Group

**CEREGEN**

Positions Available in Crop Biotechnology

(A unit of Monsanto Company)

Ceregen (a unit of Monsanto Company) has an immediate research opening for an innovative scientist with a BS or MS degree and extensive work experience for the development and implementation of technologies for the transformation of wheat. Candidates should have considerable experience with plant tissue culture and/or developmental biology and plant transformation. The ability and willingness to work within an interactive/interdisciplinary team environment is required.

The Monsanto Plant Science Technology group is a world class organization with a strong commitment to the discovery of novel traits for crop plants using biotechnology. The qualified individual will join scientists with expertise in gene expression, plant development, plant growth regulators, plant transformation, molecular biology, and biochemistry to contribute to research to develop products that provide value to agriculture worldwide.

Monsanto is an Equal Opportunity Employer. Minorities, females, disabled, and veterans are encouraged to apply. We will provide reasonable accommodations upon request. Please send your resume and a list of at least 3 references to:

**Barbara Rhodes
Ceregen Technology
Monsanto Company
Mail Zone GG4J**

**700 Chesterfield Village Parkway
St. Louis, MO 63198
bdrhod@cemail.monsanto.com**

Since 1992, Ontogen has established itself as a leader in the development and use of automated organic synthesis technologies. Our mission is to utilize modern tools of chemistry and biology to discover and develop small molecule therapeutics. A pending collaboration requires the growth of the biology department at our research facility located 30 miles north of San Diego in Carlsbad, Ca.

Director of Biology

The successful candidate's responsibility will be to dramatically increase the size and capabilities of the existing department. In addition, this individual will direct the preclinical development studies of drug candidates and manage a multi-disciplinary approach to drug development.

All applicants must have a Ph.D. in a biological discipline and 7+ years experience in pharmaceutical drug development. Proven experience in taking multiple projects from inception to completion as a project leader and a team member are required. A broad knowledge base is essential and should include enzymology, cellular receptor and signal transduction processes and *in vivo* pharmacology. **Code - DIR**

Research Scientist, Biology

The successful candidate will have a Ph.D. in biochemistry or molecular biology with 2 to 5 years of practical postdoctoral experience. Extensive experience in both protein purification and enzyme kinetics are essential. The incumbent will be expected to develop, validate and automate novel enzyme, receptor binding and/or whole cell assays for high throughput screening of spatially dispersed chemical libraries. **Code - RSB**

In addition to a strong personal commitment to drug discovery, all applicants are expected to possess excellent written and oral communication skills and the ability to work well on a multi-disciplinary team. Ontogen offers competitive compensation and benefits packages including a stock option plan. Qualified candidates are invited to send or fax resumes to **Human Resources (code), Ontogen Corporation, 2325 Camino Vida Roble, Carlsbad, CA 92009; 619/930-0200 (fax).** Ontogen is an Equal Opportunity/Affirmative Action Employer.

Ontogen Corporation

Drug Discovery Opportunities

Oncogene Science, Inc., a Long Island Biopharmaceutical company utilizing industry leading proprietary technology to discover and develop novel human therapeutics, is seeking qualified candidates in the following disciplines:

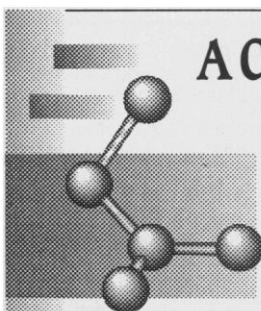
- **Molecular Biology**
- **Biochemistry**
- **Molecular Pharmacology**

The ideal candidates will have research experience in the dermatology or virology areas preferably within the pharmaceutical industry. Openings exist at the Research Associate, Scientist and Senior Scientist levels.

Educational requirements for these positions range from Bachelor's degree through to Ph.D. with post-doctoral training, and appropriate work experience.

Oncogene Science offers an excellent compensation and benefits package, along with superb opportunities for career development. Please send resume to: **Oncogene Science, Inc., 106 Charles Lindbergh Boulevard, Uniondale, NY 11553-3649, Attn.: Human Resources Director; Fax: 516-222-0114. EOE M/F/V/H.**

**Oncogene
Science** 



A Closer Look Reveals The Big Picture.

Some see molecules. We see possibilities. At Alcon Laboratories, taking a closer look at ophthalmic and vision care products has enabled us to maintain our position as the global industry leader with over \$1.7 billion in annual sales. And our vision is getting better with time. If you see beyond what the eye can see, success is well within reach.

Senior Scientist-Receptor Binding/Assay Development

This individual will develop, validate and trouble-shoot receptor binding and functional assays to evaluate proprietary compounds, Combinatorial Libraries and Natural Products. The successful candidate will have a Ph.D in Pharmacology/Biochemistry with 1-3 years postdoctoral/industrial experience. Specific experience in conducting ligand binding and second messenger assays, and computer analysis of data are essential. Research experience with High Throughput Screening and laboratory automation is preferred.

If you're looking for a future where there's no ceiling on your potential, we offer a clear chance for success. We're located in Fort Worth, Texas, where a warm climate, low cost-of-living and a variety of recreational and cultural attractions are part of the Sunbelt lifestyle. For consideration, please forward your resume to: Alcon Laboratories, Inc., Placement and Development, T1-3 (SSRB), P.O. Box 6600, Fort Worth, TX 76115. Or email to: 73400.2436@Compuserve.com
Equal Opportunity Employer,
M/F/D/V. Principals Only,
Please.

Alcon
LABORATORIES

More Than Meets The Eye

DEAN College of Veterinary Medicine Auburn University, AL

The College of Veterinary Medicine at Auburn University invites applications of persons for the position of Dean. The Dean serves as chief administrative officer of the College, with responsibility for programs in teaching, research, clinical service, and outreach.

Auburn University is a comprehensive public doctoral institution with its main campus in Auburn, Alabama. Chartered in 1856 as a liberal arts college, the University was issued Land Grant status in 1862 and has more than 22,000 students enrolled in 12 colleges and schools. Veterinary science has been taught as a distinct academic discipline at Auburn since 1892, and the Doctor of Veterinary Medicine degree was first offered in 1907. The College of Veterinary Medicine is organized into six academic departments and a privately endowed research center.

Candidates for the position of Dean must hold the DVM or equivalent degree, as well as the Ph.D. degree or certification by a specialty board approved by the AVMA. Candidates are expected to demonstrate a commitment to effective teaching at the professional, graduate, and postgraduate levels; a sustained record of competitive research; and a history of contributions to the profession through clinical or diagnostic service, and outreach. Distinguished achievement with recognition at the national level is expected. Candidates must offer evidence of effective leadership, administrative experience, plus acquisition and management of financial resources. Candidates should be eligible for appointment at the rank of professor in an academic department of the College.

Salary is commensurate with experience and background. The position is available October 1, 1996. Consideration of applications will begin on June 1, 1996. Send letters of application, including vision statement and curriculum vitae with names, addresses and telephone numbers of five references, or letters of nomination including names and complete addresses of nominees to **Dr. James E. Marion, Chair, AUCVM Dean Search Committee, College of Agriculture, 107 Corner Hall, Auburn University, AL 36849-5401; phone 334/844-2474; fax 334/844-4814.**

*Auburn University - An AA/EO Employer
Women and Minorities are Encouraged to Apply*

SCIENCE OPPORTUNITIES

NeXstar Pharmaceuticals, Inc. is a growing biotechnology company, headquartered in Boulder, CO. Dedicated to the design, development and manufacture of novel therapeutic agents, we are currently seeking energetic and focused individuals to join our scientific team.

Position #249: Senior Scientist, Oligonucleotide Analytical Chemistry. An excellent opportunity now exists for a Senior Scientist interested in developing analytical methods to evaluate clinically-useful oligonucleotides. To be successful in this position, you will need a strong understanding of methods used to characterize biomolecules. In addition, you will need a working understanding of synthetic chemistry and drug delivery issues. Finally, excellent communication skills and the ability to work in a team environment are essential. We anticipate that qualified individuals will have a Ph.D. in analytical chemistry or related pharmaceutical sciences, and at least three years of industrial or postdoctoral experience.

Position #236: Research Associate. Requires a BA/BS degree (2+ years experience), or a MS degree (1-2 years experience), relevant to Cell Biology. Responsibilities include: 1) Screening of candidate compounds, 2) Cell-based toxicological assessment of target compounds (ie. IC50 determinations and other relevant assays), and 3) Independent basic research projects.

Position #243: Research Associate. Requires a BA/BS degree (6+ years experience), or a MS degree (4+ years experience), relevant to Cell Biology. Responsibilities include: 1) Bioassay development, implementation and validation, 2) Cell-based toxicological assessment of candidate compounds (ie. IC50 determinations and development/modification of alternative screening systems), and 3) Independent basic research projects.

Both positions require experience in endothelial/epithelial and tumor cell culture and will involve routine cell culture duties (involving multiple cell types), including periodic primary cell isolation. Experience with cell-based radioassay, colorimetric and/or fluorescence assay systems is required. Additional experience in one or more of the following areas is also required: Fluorescence applications (cell viability, metabolic status, cell signaling, fluorescent ligand receptor binding, etc.), Photomicroscopy (including phase-contrast and fluorescence), and Gel Electrophoresis (1-D and 2-D). General lab management duties will be associated with both positions. In addition, it is essential that the successful candidate possess flexibility and be able to work within a team-oriented environment.

Position #162: Research Associate. To be considered you must have a BS/MS in molecular biology or biochemistry and at least two years of lab experience. Familiarity with handling nucleic acids including radio-isotope work, in vitro transcription, PCR and DNA sequencing is necessary. Experience with organic chemistry is helpful. We are seeking a highly motivated individual with excellent attention to detail, good laboratory practices, excellent communication skills and the ability to work independently.

NeXstar, located in Boulder, CO, is lauded for its scenic beauty, healthy lifestyle and superior educational standards. We value employee ideas and reward efforts with competitive salaries and excellent benefits. If you are interested in any of these positions, please send your c.v., noting the position number to:

**NeXstar Pharmaceuticals, Inc.
Attn: KH, Position #236 or #243
or Attn: PM, Position #162 or #249
2860 Wilderness Place
Boulder, CO 80301**

NEXSTAR
Pharmaceuticals, Inc.

NeXstar Pharmaceuticals is an Equal Opportunity Employer

Boehringer Ingelheim Pharmaceuticals, together with Boehringer Ingelheim companies worldwide, shares a commitment to innovative research and scientific exploration. This commitment is evident in our world-class R&D facilities, programs and scientific staff and has established us as a major international pharmaceutical company.

We have a challenging opportunity in our R&D Immunology Department for an outstanding Scientist to study *ionic events* associated with signal transduction as applied to the principles of inflammation and immunology.

Candidates must be a recent Ph.D. or in the process of finishing dissertation in a relevant science discipline. Experience with patch-clamp techniques and/or the use of fluorescent dyes to measure intracellular activities is preferred but not necessary. The ideal candidate should also possess highly developed analytical skills in addition to excellent oral and written communication skills.

Boehringer Ingelheim's facility is located on a campus-like setting in a beautiful area of Western Connecticut bordering New York. We offer excellent benefits and a supportive, challenging environment. For an opportunity to be part of our growing team, please send your resume and salary requirements to: **Dept. BB-RDPD3,, Boehringer Ingelheim Pharmaceutical, Inc.,**

900 Ridgebury Road, P.O. Box 368, Ridgefield, Connecticut 06877-0368. We are an equal opportunity employer. As a progressive health care company, we have a non-smoking environment.



**Boehringer
Ingelheim**

POSTDOCTORAL RESEARCH OPPORTUNITY ION CHANNELS

Assistant Extension Citrus and Avocado Management Specialist and Assistant Plant Physiologist

The Department of Botany and Plant Sciences, University of California, Riverside, announces a position available October 1, 1996. The position is an 11-month, academic career-track, Assistant Extension Specialist (70%) and Assistant Plant Physiologist (30%) appointment in the Agricultural Experiment Station. Applied and basic research on the horticulture of citrus and avocado with some emphasis on soil/water/rhizosphere management. The appointee is expected to provide leadership, coordination, and subject matter knowledge through statewide research and education activities for the benefit of the California citrus and avocado industries. A Ph.D. degree in plant physiology or a closely related discipline is required. The position requires a broad knowledge of horticulture or one of the other plant sciences and expertise in one or more of the following areas: mineral nutrition/fertility management; irrigation management; root function and health; water and/or salinity stress; tree crops. Skills in oral, written, and visual communication are essential. Send letter of application, curriculum vitae, statement of research interest, and transcripts, and arrange to have at least three confidential letters of reference sent to: **Dr. A. E. Hall, Chair, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521-0124. Phone: 909-787-4413; Fax: 909-787-4437; email: susanm@ucr.ac1.ucr.edu.** The application deadline is July 31, 1996. The University of California is an Affirmative Action/Equal Opportunity Employer.

Postdoctoral Scientist

Job # 9627

Ciba's Biotechnology Research Unit (RTP) is seeking a Ph.D. for a Postdoctoral Scientist position in the Seeds Disease Control Group. The successful candidate will possess a Ph.D. in biochemistry or a related field, with experience in enzymology, protein purification and biochemistry. The selected candidate will be responsible for the characterization of novel enzymes involved in the synthesis of biologically active natural products. Additionally, the candidate will participate in engineering new metabolic pathways in heterologous systems. Demonstrated ability in developing *in vitro* enzyme assays, purification and characterization of enzymes is required. Analytical experience to help develop or refine methods for metabolite analysis is desired.

We offer competitive salaries and a generous benefits package that includes relocation assistance.

Resumes should be forwarded with a cover letter (which should include Job# 9627) and a list of three (3) references to: **Ciba Biotechnology Research Unit, Human Resources Department, P.O. Box 12257, Research Triangle Park, NC 27709-2257. Resume deadline is May 17, 1996.**

ciba

We are an Equal Opportunity Employer, m/f/d/v.

THE J. DAVID GLADSTONE INSTITUTES

Virologist



**GLADSTONE INSTITUTE OF
VIROLOGY AND IMMUNOLOGY
UNIVERSITY OF CALIFORNIA
SAN FRANCISCO**

M.D. and/or Ph.D. investigators with demonstrated research accomplishments in the field of virology, especially as it relates to HIV disease, are invited to apply for a faculty position at the Assistant, Associate, or full Investigator Level within the Gladstone Institutes and concurrent faculty appointment at UCSF. The successful candidate will receive salary and research support from the Gladstone Institutes and also will have a unique opportunity to interact with the well-established clinical environment at the San Francisco General Hospital campus of UCSF for HIV and HIV-related research.

Please submit a curriculum vitae and the names of three references to: Chair, Search Committee, Gladstone Institute of Virology and Immunology, UCSF, P.O. Box 419100, San Francisco, California 94141-9100.

On the Internet: <http://gladstone.ucsf.edu>

*The Gladstone Institutes and UCSF are
Equal Opportunity/Affirmative Action Employers.
Women and minorities are encouraged to apply.*

PLANT RESEARCH SCIENTIST

Abbott Laboratories is currently seeking a qualified candidate for a research scientist position within the Plant Science Department, located at the Agricultural Research Center in Long Grove, IL.

The selected candidate must have a Ph.D. in a plant science-related field (e.g. Agronomy, Horticulture, Plant Physiology) with comprehensive research experience pertaining to plant growth hormones/regulators. The candidate must be familiar with modern analytical techniques, scientific instrumentation, computers, statistics, and the biological testing of experimental compounds under laboratory greenhouse, and/or field conditions. In addition to these technical background/training requirements, the successful candidate must have demonstrated project management experience, as well as excellent communication and interpersonal skills. A commercial, business, marketing, and/or regulatory background in agriculture will be a definite plus. The position will require some travel.

Abbott offers a competitive compensation package, and is located in an attractive suburban area approximately 45 miles north of Chicago. If you meet the above requirements, please send a resume to: Abbott Laboratories, Job # 96-LAM-1160, Dept. 39Y, Bldg. A-1, 1401 Sheridan Road, North Chicago, IL 60064. Abbott is an Affirmative Action Employer.

ABBOTT
LABORATORIES
Quality Health Care Worldwide

ADVANCE SCIENCE THROUGH RESEARCH

At City of Hope National Medical Center, we enjoy international status as a leader on the front line of treatment and research. We currently have the following opportunities available:

POSTDOCTORAL POSITION: Requires a Ph.D. with extensive background in cellular immunology, particularly in the cloning of human or murine cytotoxic T cells. Alternatively, candidates who possess expertise in protein/peptide chemistry and molecular biology with emphasis on viral vector construction are encouraged to apply. Research will take place in the laboratory of Don J. Diamond, Ph.D. Attn: DD

3 POSTDOCTORAL POSITIONS-MOLECULAR GENETICS: (1) the factor IX gene as a model for the human germline mutational process and its relationship to evolution and genetic disease (sample ref. Trends in Genet. 11:141); (2) the Big Blue transgenic mouse mutation detection system to examine spontaneous mutation and its relationship to cancer and neurodegenerative disease (Oncogene 11:263); and (3) development of improved methods for finding and analyzing mutations in humans (Science 244:331; Hum. Mol. Genet. 5:107). Research will occur in the lab of Steve S. Sommer, M.D., Ph.D.; include statement of short- and long-term professional goals. Attn: SS

RESEARCH ASSOCIATE: Will purify/sequence proteins. Requires a B.S. and lab experience or an M.S. background in sequence analysis, mass spectrometry, HPLC and analytical chemistry preferred. Attn: KF

RESEARCH ASSOCIATE-RADIOIMMUNOTHERAPY: Responsibilities include routine mammalian cell culture, expansion into hollow fiber systems and detailed record keeping. Requires a B.S. in Biology or a related field and 2 years experience in large scale production of monoclonal antibodies. Knowledge of techniques in protein purification and immunoassays are a plus. Attn: JS

The following two positions will investigate genetic predisposition to neuropsychiatric diseases (esp. schizophrenia). Conduct molecular analysis of candidate genes (incl. NMDA/5HT receptors) by recently developed screening methods and direct genomic sequencing.

POSTDOCTORAL POSITION: Ph.D. required. Experience in molecular biology and strong interest in neuropsychiatric disorders desirable. Attn: PJS

RESEARCH ASSOCIATE: Plan/execute experiments with minimal supervision. Techniques include human DNA/RNA extraction/amplification/sequencing, etc., to identify sequence mutations. Maintain daily lab operations. Requires B.S. degree in biological/biophysical sciences. Prior lab experience desirable. Attn: RJS

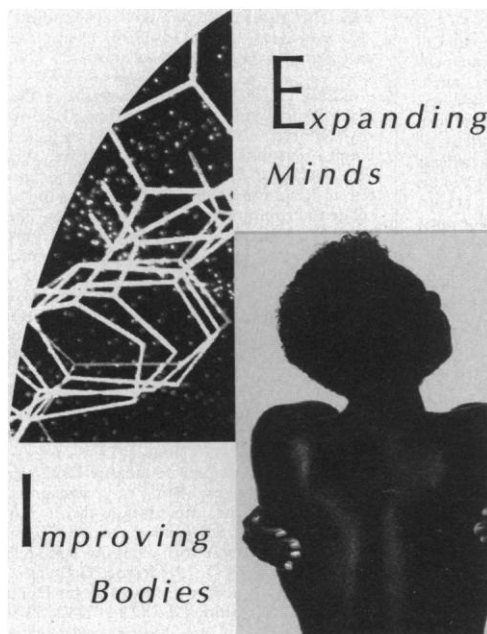
Please send your resume, indicating appropriate code, to: City of Hope, Human Resources, 1500 E. Duarte Rd., Duarte, CA 91010-3000. FAX: (818) 301-8448. Email: jyasmineh@smtpink.coh.org

Equal Opportunity Employer.



City of Hope

A National Cancer Institute-Designated Clinical Cancer Research Center



CHIRON

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Here, people make all the difference.

At Chiron, our enthusiasm for biotechnology goes beyond looking for solutions to serious diseases. Our sights are set on helping people be their best. Whether they're the patients who benefit from our breakthrough diagnostics, therapeutics, vaccines or ophthalmic devices . . . or the Chiron professionals who make it happen.

Do you have the Chiron mindset?

If your education, talent and self-determination have inspired you to seek out creative solutions in detection, treatment and prevention of the unsolved diseases and conditions plaguing mankind, Chiron has a place for you. Come join our team of diverse, energetic visionaries today. And develop the cancer, herpes, HIV and hepatitis answers of tomorrow.

Where you fit.

Our global organization has openings to challenge a wide range of biotech capabilities. Currently the following divisions:

***Diagnostics**
***Ophthalmics**
***Technologies**

***Therapeutics**
***Vaccines**

Are reviewing resumes that specialize in:

***Engineering**
***Information Systems**

***Research & Development**
***QA/QC**

Write us at Chiron Corporation, Human Resources, 4560 Horton Street, Box SC1426, Emeryville, CA 94608. Expand your opportunities to advance your career and to transform the practice of medicine. We welcome applications from all individuals. Women, veterans, minorities and disabled individuals are encouraged to apply.

POSITIONS OPEN

CHAIR DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE

The School of Medicine of the University of North Carolina at Chapel Hill is searching for an individual to **CHAIR** the Department of Pathology and Laboratory Medicine and to provide academic and administrative leadership in programs of laboratory medicine, anatomic pathology, teaching, and research. **Dr. Joe Grisham**, who ably chaired the Department for 22 years, is retiring, and we seek an outstanding investigator and leader to continue the tradition of excellence in this fine department. Minimum qualifications include an M.D. and/or Ph.D. degree and a distinguished record of performance in research and teaching, with potential or demonstrated abilities to lead and manage a complex and multifaceted academic department. Experience in hospital laboratory medicine is helpful but not essential. Research interests may be in any relevant areas of the biomedical sciences including vascular/endothelial cell biology, developmental biology, and oncogenesis. Review of applications will begin on July 1, 1996 and continue until the position is filled. Reply by sending a current curriculum vitae, a letter of interest, and the names and addresses of four references to: **P. Frederick Sparling, M.D., Chair, Pathology and Laboratory Medicine Search Committee, Office of the Dean, School of Medicine, University of North Carolina at Chapel Hill, CB Number 7000, MacNider Building, Chapel Hill, NC 27599-7000. Affirmative Action/Equal Opportunity Employer. Women and minority applicants are encouraged to voluntarily identify themselves.**

CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

Director, National Vaccine Program Office

The **DIRECTOR**, National Vaccine Program Office (NVPO), provides leadership for a national program to develop strategies for achieving optimal prevention of human infectious diseases through immunization; develop strategies for achieving optimal prevention of adverse reactions to vaccines; and ensure coordination and collaboration of vaccine activities within the Federal sector.

Qualifications include outstanding scientific credentials; experience in infectious diseases, immunization, or a related field; knowledge of vaccine policy; and proven ability to provide scientific leadership for an interdepartmental health program. A doctoral degree (M.D., Ph.D., Sc.D. or other) in biomedicine or a related field is desirable. Depending on qualifications, the annual salary range is up to \$148,400. Public Health Service Commissioned Corps Officers are also eligible to apply. Interested applicants may send their curriculum vitae postmarked by June 28, 1996, to: **Nancy Peterson, Human Resources Management Office, Mailstop K07, Centers for Disease Control and Prevention, 4770 Buford Highway, Atlanta, GA 30341-3724. Telephone: 770-488-1785.** This is a critical-sensitive position requiring an investigation and drug test for a security clearance. *CDC is an Equal Opportunity Employer and provides a smoke-free work environment.*

PROFESSOR AND ASSOCIATE DIRECTOR School of Marine Programs

Applications or nominations are invited for **ASSOCIATE DIRECTOR** of the University of Georgia's School of Marine Programs. The Associate Director will spend approximately one-half of her or his time working with the School Director on administration of the Department of Marine Sciences and on interdisciplinary projects involving the other units of the School (The Marine Institute, The Marine Extension Service, and the Georgia Sea Grant College Program). We seek an established marine scientist qualified for appointment as a tenure-track Associate Professor or Full Professor of Marine Sciences who will maintain an active, funded research program and participate in our instructional programs. Area of research specialty is open but potential for interactions with our ongoing research programs in nearshore marine processes and land-sea interactions is preferred. Send curriculum vitae; statement of administrative, research, and instructional interests; and the names of four references to: **Office of the Director, School of Marine Programs, Ecology Building, University of Georgia, Athens, GA 30602.** Review of applications will begin June 1, 1996 with an expected start date in the fall/winter of 1996. *The University of Georgia is an Equal Opportunity Employer. Women and minority applicants are encouraged to apply.*

POSITIONS OPEN



DESERT RESEARCH INSTITUTE (DRI) Biological Sciences Center Reno, Nevada

DIRECTOR, Frits Went Laboratory. Newly completed Frits Went Laboratory seeks leadership for growing research program in plant and soil biology, ecology, and modeling. Director will oversee daily operations of state-of-the-art controlled environments, associated labs, and greenhouse; develop own research program; and work closely with other DRI faculty and collaborators. Requires Ph.D. in biological sciences or related discipline; five years of research experience beyond Ph.D.; experience in the use and operation of controlled environment facilities; established record of scientific achievement, i.e. publication in peer-reviewed journals; demonstrated ability to obtain research funding; and successful management of multidisciplinary and multi-institutional research programs. Three-year renewable contract. Application review begins April 30, 1996. For more information contact: **Dr. Robert Wharton, Vice President for Research, Telephone: 702-673-7469; Email: wharton@maxey.dri.edu.** Submit curriculum vitae, letter describing how your qualifications meet position requirements, statement of your research interests, and five references to: **Recruitment Office, Desert Research Institute, University and Community College System of Nevada, P.O. Box 19040, Las Vegas, NV 89132-0040.** *An Affirmative Action/Equal Opportunity Employer employing only U.S. citizens and persons authorized to work in the U.S.*

FACULTY POSITION Biopharmaceutics/Pharmacokinetics

The Department of Pharmaceutical Sciences at North Dakota State University (NDSU) invites applications for a tenure-track position at the rank of **ASSISTANT/ASSOCIATE PROFESSOR**. The successful candidate will be expected to establish an extramurally funded independent research program, teach pharmacokinetics, direct graduate students, and participate in a sequence of team-taught pharmaceutical courses offered to professional pharmacy students. Applicants should have a Ph.D. in pharmaceutical sciences or a related discipline, and at least two years of postdoctoral experience with a strong record of scholarship and experience using state-of-the-art approaches in pharmaceutical sciences. The applicant must also have a strong commitment to teaching, as well as good interpersonal and oral and written communication skills. All qualified individuals are encouraged to apply, particularly those with research interests in pharmacokinetics, drug delivery, drug metabolism, or pharmacaceutics. A professional degree in pharmacy is desirable, but not required.

Applicants should submit a curriculum vitae, three letters of recommendation, and a brief description of future research plans to: **Dr. Jagdish Singh, College of Pharmacy, North Dakota State University, Fargo, ND 58105.** Review of applications begins June 15, 1996 and will continue until a suitable candidate is selected. *NDSU is an Equal Opportunity/Affirmative Action Employer.*

PLANT ECOLOGIST: Assistant Professor in the School of Natural and Applied Sciences at Coastal Carolina University. Full-time tenure-track position available August 1996. Ph.D. required. Undergraduate teaching experience preferred. Responsibilities include teaching introductory biology and appropriate upper-level courses. The successful candidate is expected to develop a research program that includes undergraduate majors. Landscape ecologist, GIS experience desirable. Each applicant should submit a letter of application, curriculum vitae, statement of teaching philosophy and research interests, and names, addresses, and telephone numbers of three references to: **Dr. Colleen A. Lohr, Chair, Department of Biology, Coastal Carolina University, P.O. Box 1954, Conway, SC 29526.** Screening of applications will begin immediately and will continue until position is filled. *Coastal Carolina University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN



MOLECULAR NEUROSCIENTIST—ALCOHOL

The Department of Physiology and Pharmacology of the Bowman Gray School of Medicine has a **TENURE-TRACK** opening for a molecular neuroscientist (rank open) with research interests in the alcohol area. Please send a current curriculum vitae, list of three references, and letter of interest to: **Dr. Herman H. Samson, Department of Physiology/Pharmacology, Bowman Gray School of Medicine of Wake Forest University, Winston-Salem, NC 27157-1083. Affirmative Action/Equal Opportunity Employer.**

PROFESSOR OF BIOLOGY/ DEPARTMENT CHAIR (Position 21791)

Biology Department at University of Northern Colorado (UNC) seeks **CHAIR** and **PROFESSOR** to lead sixteen faculty, three support staff, twenty-five TA/GA, and two part-time faculty. Position is tenure-track and responsible to the Dean, College Arts/Sciences. Must lead diverse faculty in department missions of excellent teaching/scholarship. Programs include undergraduate, M.A., and new Ph.D. in Biological Education, as well as environmental studies and allied health courses/advising. Developing doctoral program and research in biology pedagogy require strong leadership. Candidates must have Ph.D. and department/college-level administrative experience. To apply send application letter; curriculum vitae; detailed statement of leadership and management style; statement of teaching and research expertise; graduate transcripts; statement of citizenship or eligibility to work in U.S.; and names, addresses, and telephone numbers of five references qualified to address administrative, leadership, teaching, and research abilities. Review of complete applications begins September 1, 1996 and continues until position filled. Send applications and inquiries to: **Dr. April Gardner, Biology Department, University of Northern Colorado, Greeley, CO 80639. FAX: 970-351-2335; Telephone: 970-351-2921; Email: agardner@GoldnG8.UnivNorthCo.edu.** This position is contingent on funding. *UNC is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minorities.*

GENETICIST: Assistant Professor in the School of Natural and Applied Sciences at Coastal Carolina University. Full-time tenure-track position in genetics with an emphasis in molecular biology, available August 1996. Ph.D. required. Undergraduate teaching experience preferred. Responsibilities include teaching introductory biology and appropriate upper-level courses. The successful candidate is expected to develop a research program that includes undergraduate majors. Each applicant should submit a letter of application, curriculum vitae, statement of teaching philosophy and research interests, and names, addresses, and telephone numbers of three references to: **Dr. Colleen A. Lohr, Chair, Department of Biology, Coastal Carolina University, P.O. Box 1954, Conway, SC 29526.** Screening of applications will begin immediately and will continue until position is filled. *Coastal Carolina University is an Equal Opportunity/Affirmative Action Employer.*

INSTRUCTOR (non-tenured research appointment) to study hormonal regulation of gene expression. Ph.D. with experience in transcription factor function and DNA-protein interaction is required. Salary competitive. Send curriculum vitae with names of three references to: **Arun K. Roy, Ph.D., Professor, Cellular and Structural Biology, The University of Texas Health Science Center, San Antonio, TX 78284-7762.** *The University of Texas Health Science Center at San Antonio is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE Molecular and Cellular Cardiology

Position available to study cardiac channels expressed in *Xenopus* oocytes and cell lines. Ph.D. or M.S. with two years of experience in molecular biology and patch clamp techniques required. We offer competitive salaries. Send material to: **Dr. Mohamed Boutjdir, Cardiology Division, V.A. Medical Center, 800 Poly Place, Brooklyn, NY 11209. FAX: 718-630-3796.**

Immunology Postdoctoral Research Associate Position

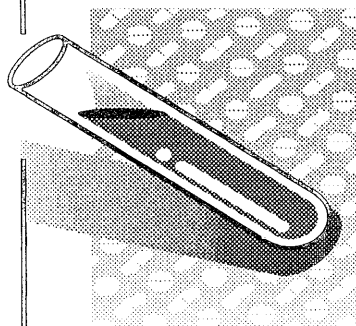
Postdoctoral positions are available immediately to study immunological memory and the effect of bacterial superantigens on viral immunity. Applicants should have a Ph.D. or M.D./Ph.D. Experience in cellular immunology and/or virology, using murine experimental models is desirable, but not essential. Send curriculum vitae and the names, addresses and phone numbers to: Dr. Marcia A. Blackman and/or Dr. Peter Doherty, Department of Immunology, St. Jude Children's Research Hospital, 332 No. Lauderdale, Memphis, TN 38105, by July 1, 1996. *Affirmative action/equal opportunity employer. We provide a smoke-free environment.*



**St. Jude Children's
Research Hospital**

ALSAC • Danny Thomas, Founder

Insight scientific discovery



Glaxo Wellcome, the world's largest pharmaceutical company, continues to reinforce its commitment to pioneering research and development efforts that respond to the existing and emerging needs of the global community. To explore new challenges in healthcare research, bring your expertise to our team in the following opening at our Corporate Headquarters located in Research Triangle Park, N.C.

POSTDOCTORAL FELLOW Protein Biochemistry

Individual will be responsible for studying the mechanism of activation of 7-transmembrane receptors. This position requires a Ph.D. in Biochemistry/Biophysics with a strong background in biophysical chemistry, including thermodynamics, as well as an interest in receptor biology. Experience with membrane proteins and 7-TM receptors desired. Candidate must be highly motivated, self-driven and independent.

The rewards of working at Glaxo Wellcome include excellent salaries and a flexible benefits package. For confidential consideration, send your resume and salary history to: **Human Resources, Job # ASC1590-1, Glaxo Wellcome, P.O. Box 13398, Research Triangle Park, NC 27709.** (No Phone Calls or Agency Referrals, Please.) An Equal Opportunity Employer M/F/D/V

GlaxoWellcome

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Dean, Science and Natural Resources: Lake Superior State University, a public, four-year university in Michigan's Eastern Upper Peninsula, invites applications and nominations for the position of Dean for the School of Science and Natural Resources. The School is comprised of twenty-one faculty members in the disciplines of biology, chemistry, geology, physics, and environmental science. The Dean reports directly to the Provost; is the primary administrator of the School for academic, faculty and curricular concerns; and represents the School in the broader academic community.

Qualifications: The successful candidate must have an earned doctorate, tenure in an academic discipline, senior academic rank, an outstanding record of teaching and scholarship, and administrative experience at the departmental level or above. Salary is competitive with excellent fringe benefits.

Lake Superior State University is a comprehensive university with a focus on teaching and the personal educational environment that can be obtained with a student enrollment of 3,500. Its beautiful location overlooking the famous Soo Locks on the St. Mary's River between Lakes Superior and Huron and the Canadian border provides unique programmatic opportunities. Over 75 baccalaureate and associate degree programs are offered as well as an MBA.

The search committee will begin reviewing applications in early May and will continue until the time of selection. Candidates should submit a letter of interest; curriculum vitae; names, addresses, and telephone numbers of at least five references and letters of reference from at least three of these to: **Dean, Science and Natural Resources Search, Office of Employee Relations, Lake Superior State University, Sault Ste. Marie, MI 49783 or FAX to (906) 635-2111.**

An Equal Employment Opportunity/Affirmative Action Employer

Women and minorities are encouraged to apply.

Postdoctoral Scientist

Job # 9629

Ciba's Biotechnology Research Unit (RTP) is seeking a Ph.D. for a postdoctoral position with our Crop Protection Weed Control Team. The successful candidate will have an opportunity to investigate molecular aspects of plant metabolism as they relate to herbicidal inhibition. Possible projects include elucidation of the mechanisms of cross-pathway gene regulation (Guyer et al., 1995, PNAS 92:4997) in plants, or investigation of the physiological responses of plants engineered for tolerance to inhibitors of chlorophyll biosynthesis. Position requires a Ph.D. with a strong background in molecular biology, biochemistry, physiology or genetics.

We offer competitive salaries and a generous benefits package that includes relocation assistance.

Resumes should be forwarded with a cover letter (which should include Job# 9629) and a list of three (3) references to: **Ciba Biotechnology Research Unit, Human Resources Department, P.O. Box 12257, Research Triangle Park, NC 27709-2257.** Resume deadline is May 17, 1996.

ciba

We are an Equal Opportunity Employer, m/f/d/v.

POSITIONS OPEN

TENURE-TRACK FACULTY POSITION ASSISTANT PROFESSOR SYNTHETIC ORGANIC CHEMISTRY Crump Institute for Biological Imaging Department of Molecular and Medical Pharmacology UCLA School of Medicine

The Crump Institute for Biological Imaging and the Department of Molecular and Medical Pharmacology at UCLA are seeking a **JUNIOR FACULTY** member with research experience in synthetic organic chemistry as well as an interest in biological applications. The successful applicant will be expected to develop an independent research program and act as a member of a research consortium to develop novel radiolabeled probes for use in positron emission tomography and other biomedical imaging modalities. The Crump Institute for Biological Imaging is a new institute at UCLA and is committed to the merger of imaging and modern biology to examine systems ranging from cellular subassemblies up to human subjects.

Candidates should have a Ph.D. in chemistry, biochemistry, or a closely related field. Teaching of graduate and M.D./Ph.D. students is expected. Send curriculum vitae, a description of research plans, and three letters of recommendation to: **Theresa Sama, Search Coordinator, Crump Institute for Biological Imaging, UCLA School of Medicine, A-222 JLNRC, Box 951770, Los Angeles, CA 90095-1770. The University of California is an Equal Opportunity Employer.**

ASSISTANT PROFESSOR Department of Biochemistry and Molecular Biology

Applications are invited for a **TENURE-TRACK** position at the Assistant Professor level. Applicants should have two or more years of postdoctoral experience and should have the potential for establishing an independent research program. Although all areas of research will be considered, studies utilizing molecular biology are favored. Interest and excellence in teaching and research in biochemistry are expected. The Medical Center includes the Schools of Dentistry, Medicine, Nursing, and Graduate Studies. The department has a biotechnology support unit. Laboratories are located with other departmental faculty in the Medical Center's Dental School Complex. Interested individuals should send a curriculum vitae with bibliography, short (three-page) summary of planned research, and the names and addresses of three references to the following:

Robert Roskoski, Jr.
Head, Department of Biochemistry
and Molecular Biology
Louisiana State University Medical Center
1100 Florida Avenue
New Orleans, LA 70119-2799

LSU Medical Center is an Equal Employment Opportunity/Affirmative Action Employer.

FACULTY IN UCSD DEPARTMENT OF BIOENGINEERING

The Department of Bioengineering at the University of California, San Diego (UCSD), invites applications for tenure/tenure-track **FACULTY** positions from individuals with expertise and training in bioengineering. The applicant should be prepared to establish a vigorous program of independent high-quality research that complements existing research activities in the Department on tissue engineering, orthopaedic bioengineering, biomechanics, or molecular and cellular bioengineering. Examples of areas of interest are musculoskeletal bioengineering, molecular bioengineering, and/or biotransport. The successful candidate will be responsible for teaching bioengineering courses at the undergraduate and graduate levels. There will be close collaboration with the School of Medicine, and qualified individuals may receive joint appointments. Salary is commensurate with qualifications and based upon UC pay schedules. Please send complete biography, samples of publications, and the names of five references to: **Dr. Richard Skalak, Chair of the Search Committee, Department of Bioengineering, Mail Code 0412(B), UCSD, La Jolla, CA 92093-0412.** The search process will begin on June 1, 1996 and continue until the positions are filled with suitable candidates. *The University of California, San Diego is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

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

An **ASSISTANT INSTRUCTOR** position is available for an expert immunocytochemist with a publication record demonstrating his or her expertise. The successful candidate must have mastered all aspects of electron microscopy, light microscopy, and contemporary immunocytochemistry, and have a relevant Ph.D. or M.D. degree. The incumbent will work with an award-winning team of investigators who study the molecular and cell biology of cholesterol metabolism.

Send curriculum vitae, a brief description of proposed research, and three letters of recommendation to:

Richard G. W. Anderson, Ph.D.
Department of Cell Biology and Neuroscience
The University of Texas Southwestern
Medical Center at Dallas
5323 Harry Hines Boulevard
Dallas, TX 75235-9039

An Equal Opportunity/Affirmative Action Employer.

DREXEL UNIVERSITY ASSISTANT PROFESSOR

Drexel University's Department of Bioscience and Biotechnology is reopening its search to fill a tenure-track position starting September 1996 at the level of **ASSISTANT PROFESSOR**. The successful candidate will have a Ph.D. in microbiology or a related area, at least two years of postdoctoral experience in the area of microbial genetics of prokaryotes or lower eukaryotes (interests could include environmental or food microbiology), the ability to establish an extramurally funded research program, and a strong commitment to innovative teaching at both the undergraduate and graduate levels. Application review began on April 16, 1996 but will be continued until position is filled. Applicants should send a statement of professional interest (research and teaching), curriculum vitae, and the names of three references to: **Ms. Sheila Hall, Secretary to Search Committee, Department of Bioscience and Biotechnology, Drexel University, 32nd and Chestnut Streets, Philadelphia, PA 19104. FAX: 215-895-1273. Drexel University is an Equal Opportunity/Affirmative Action Employer and actively seeks applications from women and minorities.**

RESEARCH SCIENTIST. Conduct research emphasizing mammalian cell cultures and analyze drugs for anti-cancer activity. Analyze overall biological activities of retinoids for development as therapeutic agents. Minimum Ph.D. (biochemistry or molecular biology). Experience in handling mammalian cell cultures and knowledge of melanoma cells. Knowledge and experience of molecular biology techniques, including manipulation of DNA/RNA, transfection and DNA gel mobility shift assay and polymerase chain reaction. Job and interview site: La Jolla, California. Salary: \$52,350 per year, 40 hours per week. *Must show proof of right to work in U.S. if offered employment.* Send this ad and your résumé to: **Job Number LJ-51005045, P.O. Box 269065, Sacramento, CA 95826-9065.**

ENDOWED CHAIR IN NEUROBIOLOGY Departments of Cellular Biology, Neurology and Neurosurgery

Full-time, **TENURE-TRACK**, joint faculty position available June 1, 1996. Applicants should have a Ph.D. or M.D., postdoctoral experience, and a record of excellent research accomplishments in cell/molecular biology of stroke or other neurological diseases of the aged. Candidates should have an established record of extramurally funded research support and be willing to participate in the Neuroscience Graduate Program. Faculty rank will be commensurate with level of experience. An attractive package including the Schumpert Chair, research facilities, and start-up funds is available. Send curriculum vitae and description of current and future research plans to:

Leonard L. Seelig, Ph.D.
Department of Cellular Biology and Anatomy
LSU Medical Center at Shreveport
P.O. Box 33932
Shreveport, LA 71130

LSU Medical Center is an Affirmative Action Employer.

POSITIONS OPEN

COLLEGE OF SAINT BENEDICT HUMAN ANATOMY AND PHYSIOLOGY

The College of Saint Benedict, a women's college, and Saint John's University, a men's college, are accepting applications for a one-year appointment of **ASSISTANT PROFESSOR** to begin fall 1996 in the Joint Biology Department. Primary teaching responsibility is in Human Anatomy and Physiology, lecture and laboratory. Teaching experience required; Ph.D. preferred. Interested applicants should send a letter of application, curriculum vitae, three letters of recommendation, graduate transcripts, and evidence of teaching effectiveness, if available, to: **Human Resource Director, College of Saint Benedict, 37 South College Avenue, St. Joseph, MN 56374.** Applications received after May 17, 1996 cannot be guaranteed consideration. *Women and people of diverse racial, ethnic and cultural backgrounds are encouraged to apply. The College is an Affirmative Action/Equal Employment Opportunity Employer.*

WETLAND ECOLOGIST

The Natural Resources Management Program, University of Maryland, College Park, invites applications at the **ASSISTANT/ASSOCIATE PROFESSOR** level for a tenure-track position within the Biological Resources Engineering Department beginning in August 1996. Teaching responsibilities include courses in wetlands ecology and water quality methods plus new courses in the applicant's specialty. The successful candidate will develop an extramurally funded research program and advise undergraduate and graduate students. Ph.D. in a biological science or engineering is required and one degree in engineering is preferred. Applicants should send curriculum vitae, copies of transcripts, and three letters of recommendation by June 1, 1996 to: **Patrick Kangas, 1457 Animal Science/Agricultural Engineering Building, University of Maryland, College Park, MD 20742. Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITION PHARMACOLOGY

The Department of Pharmacology is accepting applications for a full-time **JUNIOR FACULTY** position. Applicants with research programs in pharmacology or molecular pharmacology are sought; should have a record of publications and extramural funding. In addition to a vigorous research program, individuals should have an interest in teaching. Salary and rank will be based upon individual qualifications and experience. Candidates should send a curriculum vitae, a brief statement of research goals and accomplishments, record of funding, and list of five references. Applications should be sent to: **Professor Harris Busch, Department of Pharmacology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030-3498. Baylor College of Medicine is an Equal Opportunity/Affirmative Action Employer.**

UCLA School of Medicine's Department of Biomathematics has two **TENURE-TRACK** positions at any level for those who have an independent research program in mathematical modeling and the areas of genetics, molecular biology, neuroscience, and physiological science. It is expected that the successful candidates will continue a productive research program, participate in doctoral thesis advising, and teach two courses a year. Start-up funds are available to provide computer support and travel to meetings. Interested applicants should contact: **Robert M. Elashoff, Interim Chair, UCLA, School of Medicine, Department of Biomathematics, 10833 Le Conte Avenue, Room AV-617, Los Angeles, CA 90095-1766. The University of California is an Affirmative Action/Equal Opportunity Employer.**

Science Department **CHAIR.** Museum of Discovery and Science, Fort Lauderdale, seeks Ph.D. environmental scientist/ecologist/biologist to lead growing science effort. Duties include public programs, work with teachers and gifted students, museum exhibits, community outreach, and departmental administration. Excellent communication skills and passion for public access to science essential. Experience with Florida ecosystems preferred. University association likely. Contact: **R. Mac West, ISI, Box 42328, Washington, DC 20015. Telephone: 202-362-5823; Email: Rmacwest@aol.com.**

PHYSICAL SCIENTIST MASS SPECTROSCOPIST

NEW SENIOR INVESTIGATOR POSITION AT NIH: A senior scientist with a demonstrated record of achievement in mass spectrometry instrumentation research is sought to join the National Center for Research Resources (NCRR) staff in order to conduct a research program for development of innovative instrumentation. This is a new staff position, equivalent to a tenured professor at a major research university. Applicants should have competed successfully for grant awards in the areas of design and construction of mass spectrometers or the physics of modes of ionization, or have authored patents resulting in novel commercialized instrumentation. The investigator will direct several permanent staff members in an NCRR laboratory in the development of new mass spectrometric tools for biomedical research, and be a central figure in the consortium of independent intramural NIH investigators. Candidates should have an established record of collegiality and collaborative research because this position will require significant interaction with NIH biochemists and molecular biologists in communicating the research potential of newly developed mass spectrometric tools.

The candidate will be eligible for a GS-15 position (\$73,486 to \$95,531), or a Senior Biomedical Research Service position (\$69,300 to \$148,000), depending upon review of credentials and achievements.

Send applications or direct inquiries to:

**NCRR PERSONNEL OFFICE
BUILDING 31/ROOM 3B38
31 CENTER DRIVE MSC 2130
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20892-2130;
ATTN: EUGENE McDOUGAL
TELEPHONE (301) 496-1524
FAX (301) 402-2110**

Include a brief proposal (2 pages maximum) describing intended research direction and resource requirements, along with your curriculum vitae and bibliography. **Refer to Announcement No. RR-96-0005.** U.S. citizenship is required for the GS-15 position, but is not required for the Senior Biomedical Research Service position.

NIH is an Equal Opportunity Employer

RESEARCH MANAGER Bioinformatics (Job #AT-602)

This position is primarily a research position to aid in the analyses of genomic data being developed for corn, including not only gene sequences, but also their map locations and expression patterns. The primary goal will be to compile these data with that from other species to aid Pioneer researchers in developing a better understanding of how individual genes can be manipulated to improve crop productivity. Will also work with researchers to develop search queries tailored to their needs, allowing them to efficiently extract data from this project, compile it with relevant information from external databases and identify genes/clones of highest priority for further investigation. Will be responsible for publishing the results of these efforts, both internally and externally on a regular basis. A Ph.D. degree in a biologically related field with excellent computer literacy and knowledge of the current state of genomic research is desired. A basic understanding of the molecular biology/biochemistry of DNA and protein, in particular how relevant information is stored and accessed in public databases. Experience with DNA analysis programs such as BLAST, FASTA, GCG, etc. and working familiarity with both Mac and IBM computer platforms. Knowledge of Internet resources, how to access and publish to it using WEB tools. A high level of verbal and written skills and the ability to communicate information to people with varying degrees of science and computer literacy. A genuine support ethic coupled with an aptitude for the detective work necessary to determine what a user is really trying to accomplish. Must be out-going in nature and eager to work with others. Able to take initiative in the development of programs but with the recognition of tailoring them to the needs of their clientele.

We offer competitive salaries and excellent, comprehensive benefits such as 401(k), tuition and relocation reimbursement. Des Moines is a prospering heartland city that ranks well above the national averages in affordability and education. Our location provides a mix of beautiful open spaces and city life advantages. For confidential consideration send 3 copies of your resume and cover letter indicating job number by June 1, 1996 to: Pioneer Hi-Bred International, Inc., Attn: PERSONNEL (Job #AT-602), P.O. Box 1004, Johnston, IA 50131-1004.

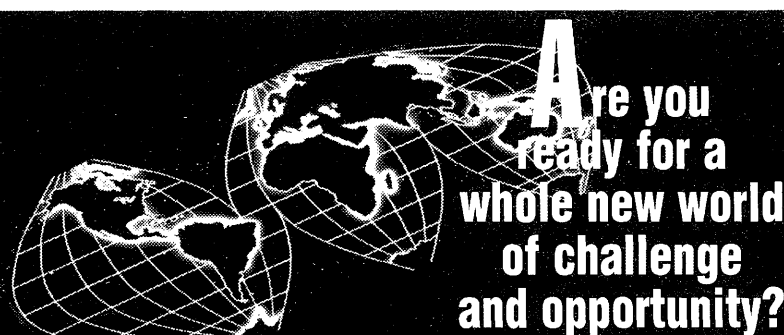
The Science of Agricultural Genetics

Pioneer Hi-Bred International, Inc., is the world leader in agricultural genetics. Founded in 1926, we are a publicly held company that invests more than \$115 million in research and product development. Pioneer brand products are grown in almost every crop-producing continent in the world. At our headquarters in Des Moines, Iowa, we're adding to our Research team.



**PIONEER HI-BRED
INTERNATIONAL, INC.**

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Employer*



**At Sanofi Winthrop,
we believe a promising
future can be a reality
and we have made a
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good health for people
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Sanofi Winthrop, Inc., a major developer and marketer of ethical pharmaceuticals, is the newly acquired North American division of Sanofi, a diversified healthcare company with headquarters in Paris, France. We are a global company with over 40,000 men and women in more than 100 countries and hold leading positions in world markets.

The Sanofi Research Division is dedicated to the development of innovative new therapies, including many that address diseases often associated with the aging process: cardiovascular, thrombosis, central nervous system and cancer. Many of our promising research candidates are in later stages of clinical trials, and we anticipate significant future growth within the industry.

If you are a scientist interested in joining a team dedicated to bringing major innovative medicines to the marketplace by the end of the century, we'd like to talk with you. At Sanofi Winthrop, you'll enjoy a highly competitive salary, flexible scheduling options, and a comprehensive benefits package. Please contact us for more information at **Human Resources, Sanofi Winthrop, 9 Great Valley Parkway, Malvern, PA 19355. FAX: 610-889-8850.** We are an equal opportunity employer.

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POSITIONS OPEN

MICHIGAN STATE UNIVERSITY GOVERNMENT AFFAIRS RESEARCH OFFICER

The incumbent, working with the faculty and the Office of the Vice President for Research and Graduate Studies, will monitor federal agency research policies, plans, legislation, and budgets; and develop campus strategies and actions to match Michigan State University (MSU) research strengths with federal agencies' needs. Based in the MSU Washington, D.C. office, the individual will represent the university in meetings with federal agencies and congressional officials.

Minimum requirements include a Master's degree in science or engineering; five years of experience; understanding of federal science policies; extensive knowledge of governmental processes and relations for both the executive and legislative branches; and a proven ability to analyze political climate and potential outcomes. Personal research experience is desirable. Strong interpersonal, communications, negotiation, and strategic planning skills are essential.

Send letters of application and résumé, referencing posting J60162, no later than May 28, 1996 to:

Howard Gobstein
Assistant Vice President
Governmental Affairs
Michigan State University
484 Administration Building
East Lansing, MI 48824-1046

DIRECTOR OF RESEARCH Proteinix, Inc.

Proteinix, Inc., a growing company with a portfolio of recently issued patents on the ubiquitin fusion technology and its numerous applications, seeks an outstanding **DIRECTOR** of Research. Successful candidate should possess a broadly based molecular biological expertise including extensive experience with recombinant DNA technology and protein/peptide biochemistry. Industrial experience in a biotechnology setting is desirable. Particular attention will be given to candidate with demonstrated success in being a strong leader of a research group in a biotechnological setting. Experience with the management of sponsored research programs that involve outside collaborators, and experience with strategic planning, budgetary management, and setting of research priorities are essential. Excellent writing and oral communication skills, as well as interpersonal skills, are also essential. The initial compensation will be based on experience and accomplishments. A relocation and benefits package is included. Send résumé and salary history to: **SL/Human Resources, Proteinix, Inc., 16020 Industrial Drive, Gaithersburg, MD 20877.**

UCLA School of Public Health's Department of Biostatistics has a **TENURE-TRACK** position at any level for those with an independent research program in biostatistics. It is expected that the successful candidate will continue a productive research program, participate in doctoral thesis advising, and teach two to three courses a year. Start-up funds are available to provide computer support and travel to meetings. Interested applicants should contact: **Robert M. Elashoff, Chair, UCLA, School of Public Health, Department of Biostatistics, 10833 Le Conte Avenue, Room 51-239, Los Angeles, CA 90095-1772.** The University of California is an Affirmative Action/Equal Opportunity Employer.

UCLA SCHOOL OF MEDICINE POSTDOCTORAL POSITIONS Cancer Research

Seeking **POSTDOCTORAL RESEARCHERS** from scientifically acclaimed graduate program with knowledge and interest in the molecular biology of cancer. Applications are invited from Ph.D.s or M.D.s with a strong background in cellular and molecular biology; must desire an academic career. Successful candidates will work on various aspects of basic science research of cancer. Salary will equal or exceed NIH standards. To apply, send your curriculum vitae and one-page description of professional/research goals along with names, addresses, and telephone numbers of references to: **Number 1950729, H. Phillip Koeffler, M.D., Division of Hematology/Oncology, Cedars-Sinai Medical Center/UCLA, 8700 Beverly Boulevard, B-213, Los Angeles, CA 90048.** Equal Opportunity Employer/Affirmative Action.

POSITIONS OPEN

TEACHING POSITION ANNOUNCEMENT PHYSIOLOGIST

The Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine, Texas A&M University, invites applications for a tenure-track teaching position as an **ASSISTANT** or **ASSOCIATE PROFESSOR** of veterinary physiology and pharmacology. The requirements for this position are DVM and/or Ph.D. or equivalent degrees. Preference will be given to candidates with exceptional teaching skills and expertise relating to mammalian physiology.

The successful candidate will devote the majority of his or her time to instruction of undergraduate, graduate, and professional students and will be expected to teach in a variety of settings including large classroom lectures and small group discussions, and to teach laboratory sessions. Expectations for the person filling this position include effective interpersonal skills, a demonstrated ability and/or excellence in performance of scholarly activity relating to teaching, and the ability to provide departmental leadership in the area of physiology education.

Interested candidates should submit a letter of intent outlining their academic interests and goals, a curriculum vitae, pertinent publications, and a list of personal references to: **Dr. Donald R. Clark, Professor, Department of Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX 77843-4466.** Inquiries may be directed to Dr. Clark at: Telephone: 409-845-7261; FAX: 409-845-6544; or Email: **DCClark@Vetmed.TAMU.Edu.**

Review of applications will begin immediately and continue until the position is filled.

The Texas A&M University System is an Affirmative Action/Equal Opportunity Employer committed to excellence through diversity.

FACULTY AND POSTDOCTORAL POSITIONS

The Renal Division, Department of Medicine, Beth Israel Hospital and Harvard Medical School, invites applications from Ph.D.'s and M.D.'s for two tenure-track positions at the **INSTRUCTOR/ASSISTANT PROFESSOR** level. Preferred areas of interest: gene therapy/virology; renal cancer (especially immunotherapy); renal fibrosis models; transplantation; and endothelial, epithelial, or mesangial cell biology.

Also, **POSTDOCTORAL** positions open to design vectors (viral and non-viral) for gene therapy applications with a focus on the kidney. Two years of experience in at least one of the following areas essential: molecular biology, virology, liposome technology, kidney disease models. Permanent resident visa or U.S. citizenship essential because of funding from N.I.H. training grant.

Submit a curriculum vitae, copies of two or three publications, and three reference letters to:

Vikas P. Sukhatme, M.D., Ph.D.
Beth Israel Hospital, Renal Division, DANA 517
330 Brookline Avenue, Boston, MA 02215
FAX: 617-667-7843
Telephone: 617-667-2105
Email: **vsukhatm@bih.harvard.edu**

Affirmative Action/Equal Opportunity Employer.

CALIFORNIA INSTITUTE OF TECHNOLOGY Bantrell Fellowship

The Division of Biology, California Institute of Technology, invites applications for a Prize **POSTDOCTORAL FELLOWSHIP** for Scientific Research. The competitively awarded fellowship will be for one year only. The annual stipend is \$32,000 to the awardee plus small research and travel allowances. Applicants must be citizens of the U.S. or Israel. Work may be associated with any faculty member of the Biology Division. Applications, including curriculum vitae, list of publications, and research plan, received by May 1, 1996, will be considered for the 1996-97 academic year. Address inquiries c/o: **Ms. Gwen Murdock, Division of Biology 156-29, California Institute of Technology, Pasadena, CA 91125.**

Caltech is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.

Full Page Recruitment Advertiser Index

CAREER OPPORTUNITIES FOR WOMEN IN SCIENCE

The following organizations have placed full page recruitment advertisements in this issue of SCIENCE beginning on page 573.

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SCIENCE

Research Scientist

Cargill, Inc.

Ft. Collins, Colorado

Cargill is seeking a highly motivated research scientist to join the worldwide oilseed team in the development of new plant based products. The researcher will be responsible for implementing the research strategy for modifying oil and meal traits, designing and evaluating gene constructs to maximize product production, analyzing the stability of the introduced genetics in different environments, and coordinating the integration of biotechnology traits into the breeding program. Minimum requirements for the position include a Ph.D. and postdoctoral experience in plant molecular biology, biochemistry, genetics or related fields. Candidate must be experienced with construction and screening of genomic and cDNA libraries, DNA cloning and sequencing, construction of gene expression systems, analysis of lipids and proteins, and molecular mapping. Candidate should be familiar with concepts of plant breeding and field trialing. As part of a multidisciplinary team, the research scientist will need strong written and oral communication skills. Applicants are requested to send a curriculum vitae, letter describing research experience and interests, and the names of three references by June 15, 1996, to: **Dr. Lorin R. DeBonte, Cargill, 2540 East Drake Road, Ft. Collins, CO 80525.** Cargill is an Equal Opportunity Employer.



GENE LIBRARY PRODUCTION

STRATAGENE, a leader in the development and manufacture of molecular biology research products located in San Diego, is expanding our Custom Gene Library Production group. Qualified candidates will possess a B.S./M.S./Ph.D. with 3+ years' laboratory experience in molecular biology. Laboratory experience in RNA and DNA isolation, cloning and cDNA/genomic library construction is required; a background in gene expression, lambda phage, plasmids, and filamentous phage is a plus.

Interested candidates should send a resume to: **Stratagene, 11011 N. Torrey Pines Rd., La Jolla, CA 92037, Attn: Professional Staffing 32014-95R.** AA/EOE.



Roche

JOIN AN INTERNATIONAL LEADER

At Hoffmann-La Roche, the strength of our research efforts have made us a leader in the pharmaceutical and health care industries. Currently, our Biopharmaceutical Department is looking for dedicated scientific professionals who can contribute to our continued success by conducting innovative research and development in the production of therapeutic proteins.

PROTEIN PURIFICATION GROUP HEAD

This key position is responsible for leading a group of 20+ Scientists in the development of protein purification processes in support of discovery, preclinical and clinical development and marketed products. Specific duties will include: coordinating the efforts of purification teams in the development, scale-up and manufacture of therapeutic proteins; directing innovative research in new technologies and processes for protein purification which maintain product efficacy and quality in a cost effective manner; and collaborating with other Roche research organizations and affiliates.

The successful candidate will possess a Ph.D. in Protein Biochemistry with post-doctoral studies (or equivalent) and at least 5 years of industrial experience in developing processes for purification of biologically active proteins. A knowledge of cGMP as applied to purification of therapeutic proteins and demonstrated results-oriented accomplishment in a team-based research environment are a must, as are established supervisory and leadership skills. (Respond to: Dept. SS296WB)

SENIOR SCIENTIST, MOLECULAR BIOLOGY

A Senior Level Molecular Biologist is needed to supervise a group in stable mammalian/microbial cell protein expression. Specific responsibilities will include research into improved vectors and cell lines and the development and characterization of high-yield production cell lines. This group will work seamlessly with our cell culture group which is devoted to optimizing production of Biopharmaceuticals.

A Ph.D. in Molecular/Cellular Biochemistry with postdoctoral study (or equivalent) and specific knowledge of mammalian/microbial cell transfection, vector development and stable cell line production is necessary for success in this position. Experience with biopharmaceutical production, demonstrated results-oriented accomplishments in a team-based environment and supervisory skills are highly desirable. (Respond to: Dept. SS306PF)

We offer an attractive salary and benefits package in a state-of-the-art work environment. For consideration, please send your resume with salary history/requirements, indicating appropriate response code information in the address, to: **Ms. Stella Strazdas, Department _____, Hoffmann-La Roche, Nutley, New Jersey 07110-1199.** No phone calls please. PRINCIPALS ONLY. We are an equal opportunity employer.

Roche

Hoffmann-La Roche

A Member of the Roche Group

POSITIONS OPEN

THE IRVINGTON INSTITUTE FOR IMMUNOLOGICAL RESEARCH Postdoctoral Fellowships in Immunology 1997 to 2000

The Irvington Institute for Immunological Research will award up to 12 **POSTDOCTORAL FELLOWSHIPS** in Immunology for three consecutive years of work in a lab or a hospital in the United States. A laboratory may qualify for only one fellow per year. The fellowships will be awarded for basic immunological research.

M.D.s, Ph.D.s, and M.D./Ph.D.s are encouraged to apply. Candidates with not more than three years of laboratory experience will receive priority. The Irvington Institute does not have a citizenship requirement; however, applicants from abroad must first obtain sponsorship by a senior scientist in the U.S. before applying for an Irvington award.

The Institute will pay a stipend of \$26,000, \$28,000, and \$30,000 for years one, two, and three, with an additional eight percent each year offered to help cover the cost of health insurance, travel, and supplies.

August 15, 1996 is the deadline for filing applications. The Institute will notify applicants in November 1996 on whether they have been selected to receive a fellowship to begin January 1 or July 1, 1996. Applications may be obtained by writing to: Mary Shaw, Fellowship Coordinator, The Irvington Institute for Immunological Research, 120 East 56th Street, Suite 340, New York, NY 10022 U.S.A. FAX: 212-758-8968; Email: irving1@ix.netcom.com.

POSTDOCTORAL POSITION

University of Florida/Department of Physiology

An immediate opening is available in two NIH-supported programs to study the signal transduction and hormonal regulation (Ang II, AVP) of ion channels in renal vascular smooth muscle cells and hypothalamic neurons in collaboration with Drs. Craig H. Gelband and Colin Summers. Experience in electrophysiological (patch clamp), Ca^{2+} fluorimetric (fura-2), and molecular biological techniques is desired. Send, FAX, or Email curriculum vitae and three letters of reference to: Craig H. Gelband, Ph.D., Department of Physiology, University of Florida College of Medicine, P.O. Box 100274, Gainesville, FL 32610. FAX: 352-846-0270; Email: gelband@phys.med.ufl.edu. *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION is available to study the signal transduction through the Abl protein tyrosine kinase, particularly to investigate the molecular mechanism of Bcr-Abl function in the pathogenesis of chronic myelogenous leukemia. Molecular biology experience in the field of signal transduction or hematopoiesis preferred. Send curriculum vitae and the names of three references to: Dr. Ruibao Ren, Rosenstiel Center, Brandeis University, Waltham, MA 02254.

POSTDOCTORAL POSITION available to study human cytomegalovirus glycoproteins that function in tissue tropism and pathogenesis in polarized epithelial cells and neurons. Previous research experience in molecular and cellular biology desirable. Interested candidates should submit curriculum vitae and names of three references to: Dr. Lenore Percira, University of California San Francisco, HSW-604, San Francisco, CA 94143-0512. *An Equal Opportunity/Affirmative Action Employer.*

A **POSTDOCTORAL POSITION** is available immediately to identify and characterize proteins that interact with the Ah receptor during ligand-mediated signaling. Candidates should have a Ph.D. with a demonstrated background in molecular biology and yeast genetics. Send curriculum vitae and names of three references to: Dr. Cornelis Elferink, Institute of Chemical Toxicology, Wayne State University, 2727 Second Avenue, Room 4000, Detroit, MI 48201-2254. *Wayne State University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available to define the role of chimeric transcription factors in human leukemia. Applicants should have a Ph.D. or M.D. degree and extensive molecular biology or biochemical experience, with expertise in the study of signal transduction, cell cycle events, or protein-protein interactions. Send a description of your research interests and curriculum vitae to: Dr. Stephen D. Nimer, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021. *Memorial Sloan-Kettering Cancer Center is an Equal Opportunity Employer.*

POSITIONS OPEN

UCSF AND CHIRON BIOCINE Cellular and Molecular Immunology

POSTDOCTORAL POSITION in cellular and molecular immunology available for up to two years beginning July 1, 1996, to work jointly at Chiron Biocine and Department of Anatomy/Cardiovascular Research Institute at the University of California, San Francisco (UCSF). Studies will exploit adjuvants as probes of the immune system and elucidate the mechanisms of action of novel clinically relevant vaccine adjuvants. Experience in cellular and molecular immunology and strong interest in applying novel fluorescence and confocal microscopic techniques and FACS to study the adjuvant-stimulated immune system in mice are essential. Two or more years of previous postdoctoral experience strongly recommended. Send curriculum vitae, summary of current research, and names of three references to: Professor Donald M. McDonald, Box 0452, Department of Anatomy, University of California, San Francisco, CA 94143-0452. FAX: 415-476-4845; or Dr. Gary Ott, Chiron Corporation, 4560 Horton Street, Emeryville, CA 94608. FAX: 510-601-2586. *UCSF and Chiron Corporation are Equal Opportunity/Affirmative Action Employers.*

POSTDOCTORAL POSITION—Massachusetts General Hospital and Harvard Medical School, Boston. Fellowship in antibody engineering for candidates with appropriate experience in molecular biology, immunology, protein chemistry. Send curriculum vitae; statement of research interests; and names and telephone numbers of three references to: Dr. Michael N. Margolies, Jackson 1421, Massachusetts General Hospital, Boston, MA 02114. Telephone: 617-726-8552; FAX: 617-726-4811 or 726-6802.

POSTDOCTORAL POSITION available immediately. Experience in biochemical and molecular biological techniques to work on glycoprotein hormones, receptors, and signal transduction. Also, in protein expression and protein characterization. Send curriculum vitae to: Dr. O. P. Bahl, Department of Biological Sciences, State University of New York at Buffalo, 347 Cooke Hall, Buffalo, NY 14260. Email: camobahl@ubvms.cc.buffalo.edu. *State University of New York is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION for NIH-funded study of molecular mechanisms of brain injury and DNA damage and repair, including gene expression related to apoptosis. Ph.D. in neuroscience or molecular biology and excellent written/spoken English language skills required. Send curriculum vitae and three letters of reference to: Chung Y. Hsu, M.D., Ph.D., Department of Neurology, Box 8111, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO 63110. Email: treatk@neuro.wustl.edu.

ANTIBODY PRODUCTION SCIENTIST

Proven expertise in monoclonal and polyclonal development and production. Immunologist, Ph.D. or M.S. with minimum of five years of industry experience. Competitive salary and benefits, and real potential for professional growth with an expanding company. Send résumé in confidence to: LBL-IMM, P.O. Box 270, Pipersville, PA 18947. FAX: 215-795-0237.

The Biochemical Genetics Clinical Lab has a 100% position available July 1, 1996. Duties include all aspects of lab operation (amino acid analysis, chemistries, enzymatic analyses, chromatographies). Tissue culture and gas chromatography-mass spectrometry experience preferred. Minimum B.S. and three years of experience required. **Position Vacancy, Biochemical Genetics Lab (Room 361), 1500 Highland Avenue, Madison, WI 53705. Telephone: 608-263-5993. Internet site: gopher://gopher.adp.wisc.edu/70/00/.browse/METAORHPV/.OHRPV03/.OHRPV0311/.00000083. The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

HARVARD MEDICAL SCHOOL New England Regional Primate Research Center

A **POSTDOCTORAL POSITION** in behavioral pharmacology is available in the Division of Behavioral Biology, New England Regional Primate Research Center (NERPRC). Current research programs utilize non-human primate models and focus on CNS mechanisms and pharmacotherapies for drug abuse, cognitive dysfunction, and self-injurious behavior. Qualified candidates should have a doctoral degree in pharmacology, neuroscience, or related discipline and will carry out independent as well as collaborative research within a supportive environment. Previous experience with nonhuman primates is desirable.

Applicants should send a brief statement of interests, curriculum vitae, and names and addresses of three references to: Roger D. Spealman, Ph.D., Harvard Medical School, New England Regional Primate Research Center, P.O. Box 9102, Southborough, MA 01772-9102. *Harvard Medical School and the New England Regional Primate Research Center are Equal Opportunity/Affirmative Action Employers. Women and minority candidates are especially encouraged to apply.*

POSTDOCTORAL POSITION available to study molecular mechanisms of carcinogenesis in the mouse skin model using transgenic approaches. Research will focus on biochemical and genetic alterations resulting in the overexpression of signal transduction molecules during multistep carcinogenesis. Applicants must have Ph.D. or M.D. degree and prior experience in either molecular genetic techniques or analysis of protein expression. Experience with DNA/RNA manipulations and gene expression using heterologous promoters is desirable. Available July 1, 1996. Contact: Dr. John DiGiovanni, Department of Carcinogenesis, UTMD Anderson Cancer Center, Science Park Research Division, P.O. Box 389, Smithville, TX 78957. *Equal Opportunity/Affirmative Action Employer and a smoke-free workplace.*

MOLECULAR CARCINOGENESIS/GENETIC TOXICOLOGY

Two **POSTDOCTORAL POSITIONS** available immediately to study mechanisms of metal-induced apoptosis and carcinogenesis. Strong background in molecular biology necessary. Send curriculum vitae, a summary of current research, and names of three references to: Dr. Steven R. Patierno, Ph.D., Molecular and Cellular Oncology Program, Department of Pharmacology, The George Washington University Medical Center, 2300 I Street NW, Washington, DC 20037.

The George Washington University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION is available at The Burnham Institute (formerly La Jolla Cancer Research Foundation) to study integrin-mediated signaling pathways and mechanisms that modulate integrin ligand binding affinity. A strong background in molecular biology is preferred. Please send curriculum vitae and the names of three references to: Kristiina Vuori, M.D., Ph.D., The Burnham Institute, 10901 North Torrey Pines Road, La Jolla, CA 92037. FAX: 619-646-3199; Email: kvuori@ljcrf.edu.

POSTDOCTORAL RESEARCH FELLOW

A position in **EXPERIMENTAL HEMATOLOGY** is available for a Ph.D. or M.D. at the Joint Center for Radiation Therapy, Harvard Medical School, Boston. The candidate should have a strong background in molecular and/or cellular hematology, including blood stem cell mobilization, stem cell organization, and experimental bone marrow transplantation. Send curriculum vitae and names and telephone numbers of references to: Dr. P. M. Mauch, M.D., Joint Center for Radiation Therapy, 330 Brookline Avenue, Boston, MA 02215. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL OPPORTUNITY available in the Markey Center for Cell Signaling for biochemist with background in protein chemistry and interest in kinases, phosphatases, or G-proteins. Experience in FPLC, membrane preparation, or characterization of non-tagged proteins a plus. Candidates must have published first-author papers in good journals, and be able to start by September 1, 1996. Send letter of inquiry, curriculum vitae, and three references to: Dr. T. W. Sturgill, University of Virginia Health Sciences Center, Markey Center for Cell Signaling, Box 577, Charlottesville, VA 22908. FAX: 804-924-9659. *An Equal Opportunity/Affirmative Action Employer.*

Nominations and applications are invited for the position of Director of Research and Advisory Services, Virginia Institute of Marine Science and School of Marine Science (VIMS/SMS). The Director of Research and Advisory Services is responsible to the Director and Dean of VIMS/SMS, and with the Dean of Graduate Studies, for successful integration of the triple mission of research, advisory services, and education in a broad spectrum of marine science and marine resource management disciplines. Emphasis is on estuarine and coastal waters. This position serves as the senior administrative officer of the Institute under the Director and, during temporary absence of the Director, administers the affairs of the Institute. Primary position responsibilities reset in facilitating interdisciplinary research and coordinating the translation of research results to meaningful science-based advice relevant to marine resource management, policy determination, and resource utilization. More information on SMS/VIMS is available on the world wide web at <http://www.vims.edu>. Candidates for the position must have a doctoral degree, a research and scholarship record appropriate for appointment as a full professor, a commitment to applying research results to the needs of clients, and proven administrative competence. Nominations, or, in the case of applicants, a letter of application, detailed resume and names and addresses of at least three reference, should be sent to: Dr. Roger Mann, Search Chair, Virginia Institute of Marine Science, School of Marine Science, College of William and Mary, Gloucester Point, Virginia 23062. Email: rmann@vims.edu. Review of applications begins 13 May 1996, and will continue until the position is filled. Starting date for the position is 1 July 1996, or as soon as possible thereafter. *The College of William and Mary is an EO/AA university. Members of under-represented groups (including people of color, persons with disabilities, Vietnam veterans and women) are encouraged to apply.*

GLOBAL CAREER OPPORTUNITIES



**Deutsches
Krebsforschungszentrum**
Stiftung des öffentlichen Rechts

**Universität
Heidelberg**

Professorship (C4) for Experimental Pathology

The German Cancer Research Center (DKFZ) and the Faculty of Medicine at the University of Heidelberg will jointly appoint a scientist as head of the Division of Experimental Pathology at the DKFZ.

Applicants should have outstanding scientific qualifications and profound experience in human pathology, in molecular biological methods, and in oncology research. Close collaboration with the Institute of Pathology of the University in diagnostics and teaching is desired. Board certification in pathology and "Habilitation" or equivalent scientific achievements are required.

Please send your application with a curriculum vitae, a list of publications, and references by June 15, 1996 to:

Deutsches Krebsforschungszentrum, Stiftungsvorstand, Im Neuenheimer Feld 280, D-69120 Heidelberg.

VASCULAR BIOLOGIST

Chemical & Biological Evaluation

Bracco Research USA, Inc., the U.S. research and development labs of Bracco S.p.A., one of the world's leaders in contrast media for *in vivo* diagnosis, has an opening in the Chemical and Biological Evaluation Department for a Vascular Biologist. You would be a member of a multidisciplinary team developing *in vivo* diagnostic agents. In this position, you would develop high throughput screens and evaluate the performance of potential targeted diagnostic imaging agents. The successful candidate will possess a Ph.D. and have 1-3 years post-doctoral research experience. A working knowledge of screen development is desirable. Bracco Research USA offers a competitive salary and a generous benefits program which includes a tax sheltered income program, group life insurance, major medical and dental coverage, and educational assistance. For consideration, please submit your resume with salary requirements and a cover letter to: Human Resources,



Bracco Research USA, Inc.
305 College Road East
Princeton, NJ 08540.

We are an Affirmative Action/
Equal Opportunity Employer.

GLOBAL CAREER OPPORTUNITIES

INSTITUTE of CELL and MOLECULAR BIOLOGY RESEARCH GROUP LEADERS



The Institute has expanded through construction of a new building devoted to basic research in cell biology and now comprises 34 research groups working on a wide range of problems in the following areas: cell biology of prokaryotes and eukaryotes; microbial genetics; fungal, plant and animal development; structural biology; plant-microbial interactions; and molecular plant taxonomy.

The Institute is keen to recruit outstanding young researchers with the potential to lead internationally competitive groups in all areas of its activity. Funding for research and salaries will be sought from a variety of sources including The Wellcome Trust, The Royal Society, the MRC and the BBSRC.

Further information about the Institute can be obtained from <http://www.icmb.ed.ac.uk> or from the address below. Enquiries, which will be treated in strict confidence, should include a CV and a list of publications (four copies of each), and should be sent by 30 May 1996 to

**DR DAVID FINNEGAN,
CHAIRMAN OF THE SEARCH COMMITTEE,
INSTITUTE OF CELL AND MOLECULAR
BIOLOGY, DARWIN BUILDING,
THE KING'S BUILDINGS,
MAYFIELD ROAD, EDINBURGH EH9 3JR
(tel: 0131 650 5361; fax: 0131 650 8650).**

Promoting
Excellence
in Teaching
and Research

Committed
to Equality of
Opportunity

POSITIONS OPEN

POSTDOCTORAL POSITIONS are available immediately for recent graduates to study molecular mechanisms of foam cell formation and structure and function of cell surface receptors. Experience in vascular cell biology and molecular biology is desirable. Send résumé and references to: **Dr. M. Mahmood Hussain, Department of Pathology and Biochemistry, 2900 Queen Lane, Medical College of Pennsylvania and Hahnemann University, Philadelphia, PA 19129. FAX: 215-843-8849; Email: hussain@medcolpa.edu.**

POSTDOCTORAL POSITION CELLULAR AND MOLECULAR NEUROBIOLOGY

The Department of Neurobiology has **POSTDOCTORAL** positions available to study various aspects of molecular, cellular, and developmental neurobiology. Some major areas of interest are cell-cell and cell-substratum adhesion molecules, neurite outgrowth, and nerve regeneration. Specific studies include: analysis of overexpression, mutation or deletion of adhesion molecules in animals, analysis of genes such as Hox and Pax that control the expression of adhesion molecules and their subsequent roles in the formation of morphogenetic pathways during neural development, identification of signal transduction pathways and the gene programs activated by adhesion molecule binding. Applicants should have a strong background in cellular and/or molecular biology. Send curriculum vitae and three letters of reference to: **Dr. Gerald M. Edelman, Chairman, Department of Neurobiology, The Scripps Research Institute, 10556 North Torrey Pines Road, SBR14, La Jolla, CA 92037. Affirmative Action/Equal Opportunity Employer.**

CLINICAL CHEMISTRY POSTDOCTORAL FELLOWSHIPS at Mayo Clinic. Seeking applicants for two-year ComACC-approved fellowship directed toward qualified individuals (Ph.D. or M.D. required) pursuing careers in clinical chemistry. Individuals completing the program are eligible for certification by the American Board of Clinical Chemistry. Applications on file by October 31, 1996, will be considered for appointment beginning in July 1997. Contact: **Mary F. Burritt, Ph.D., Division of Clinical Biochemistry and Immunology, Mayo Clinic, Rochester, MN 55905**, for more information.

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

MINORITY POSTDOCTORAL FELLOWSHIP PROGRAM IN INVESTIGATIVE DERMATOLOGY Skin Diseases Research Center Case Western Reserve University

Opportunities are available for Training Minorities in Investigative Dermatology in the Skin Diseases Research Center at Department of Dermatology, Case Western Reserve University. The program provides a top-rated collaborative environment for research training in a wide range of areas, including molecular dermatology, immunodermatology, skin carcinogenesis, photo-biology, and skin pharmacology. Research is conducted under the supervision of experienced faculty members known for their excellent teaching skills and for their ability to foster research careers in a friendly and supportive environment. Prior research training is not a prerequisite.

Interested candidates should contact: **Hasan Mukhtar, Ph.D., Professor and Research Director, Department of Dermatology, Case Western Reserve University, 11100 Euclid Avenue, Cleveland, OH 44106-5028.**

Case Western Reserve University is an Equal Opportunity Employer.

STEROID HORMONE RECEPTORS UNIVERSITY OF VIRGINIA

POSTDOCTORAL POSITION available to study the expression, identification, and regulation of estrogen receptors in the heart and peripheral vasculature. *U.S. citizenship or permanent residency is required.* Send résumé and names of four references to: **C. Desjardins, Medical Center Box 391, University of Virginia, Charlottesville, VA 22908. Email: reprod@virginia.edu.**

POSTDOCTORAL/RESEARCH FELLOW available immediately for research in CNS-PNS regeneration and restorative neuroscience. Two-year position with possible extension available. Candidates should be experienced in electrophysiology, growth factor neurobiology, histochemistry, and ultrastructure. Send curriculum vitae and statement of research accomplishments to: **Julia K. Terzis, M.D., Director-Microsurgical Program, Eastern VA Medical School. FAX: 804-446-5109; Telephone: 804-446-5272.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATES: Positions available immediately in Molecular Neuroscience for two or more years for Ph.D. or M.D. with U.S. citizen or permanent visa status to evaluate preclinical development of neurotrophic factors and antioxidant enzymes that are modified to have enhanced permeability at the BBB or BNB for the systemic treatment of animal models of neurodegeneration (see *PNAS*, 91:5705, 1994; *Mol. Brain Res.*, 23:157, 1994; 36:280-286, 1996; *J. Neurochem.*, 66:1599, 1996). Candidates must have prior experience and expertise in specific animal models of neurodegeneration, such as fimbria fornix lesion, MPTP, transgenic mouse models of ALS and AD, and aging. Send curriculum vitae, description of research experience, and three references to: **Joseph F. Poduslo, Ph.D., Molecular Neurobiology Laboratory, Departments of Neurology and Biochemistry/Molecular Biology, Mayo Clinic, Rochester, MN 55905.**

Mayo Foundation is an Affirmative Action/Equal Opportunity Educational Employer.

POSTDOCTORAL POSITION

A funded position is available to study the regulation of cell protection and apoptosis by thrombin in neurons and astrocytes following environmental insults that mimic conditions found in injury and neurodegeneration. (*J. Neurosci.*, 15:5389-5401, 1995). Studies will be directed at understanding the molecular mechanisms of the regulation and its pathophysiological significance.

Applicants should have a strong background in cell and molecular biology. To apply, send curriculum vitae, summary of past research accomplishments, and names of three references to:

**Dr. Dennis Cunningham
Department of Microbiology and Molecular Genetics
College of Medicine
University of California
Irvine, CA 92717-4505**

An Equal Opportunity Employer.

POSTDOCTORAL POSITION available at the University of Pittsburgh Cancer Institute to examine granulocyte colony-stimulating factor receptor structure and signaling in normal and leukemic myeloid cells. Experience in molecular biology, cell signaling, and/or genetic mouse models desirable. This is an NCI-supported position available for up to three years. Interested candidates should send curriculum vitae and names of three references to: **David J. Twardy, M.D., Departments of Medicine and Molecular Genetics and Biochemistry, Biomed Science Tower W1052, 200 Lothrop Street, Pittsburgh, PA 15213-2582. FAX: 412-624-7736. Email: twardy@novell1.dept.med.pitt.edu.**

POSTDOCTORAL FELLOW

Position available immediately to study immunological basis of allergic asthma. Candidates with Ph.D. in immunology, physiology, or molecular biology should send curriculum vitae and three letters of reference to: **Dr. Marsha Wills-Karp, Department of Environmental Health Sciences, Johns Hopkins University, Baltimore, MD 21205. FAX: 410-955-0299. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS LONG-DISTANCE TRANSCRIPTION CONTROL

University of Pittsburgh

POSTDOCTORAL POSITIONS are open for the study of long-distance transcriptional control mechanisms in liver development. Applicants should have a Ph.D. and experience in molecular cloning and the molecular biology of transcription factors. Please send a curriculum vitae and the names of three references to: **Joseph Locker, University of Pittsburgh, Department of Pathology, Scific Hall, Room A-725, Pittsburgh, PA 15261. Telephone: 412-648-8253; FAX: 412-648-1916; Email: loc@med.pitt.edu. The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available to study structure/function relationships in DNA photorepair enzymes. Experience in molecular biology is required. Send curriculum vitae plus names and telephone numbers of three references to: **Dr. Marilyn Jorns, Department of Biochemistry, MS 411, Medical College of Pennsylvania and Hahnemann University, Broad and Vine, Philadelphia, PA 19102. Email: jorns@hal.hahnemann.edu.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH FELLOW

Applications are invited from candidates to join genetic and physiological studies of the two-component signal transduction systems, Arc and Cpx, in *Escherichia coli*. The applicants should have a recent doctoral degree and significant experience in molecular genetics, bacterial physiology, and enzymology. The stipend will be commensurate with experience. Further inquiries should be directed to: **Prof. E. C. C. Lin, Department of Microbiology and Molecular Genetics, Harvard Medical School, 200 Longwood Avenue, Boston, MA 02115. FAX: 617-738-7664. Email: elin@warren.med.harvard.edu.** Applications should be accompanied by curriculum vitae and names and addresses of three references. *Harvard University is an Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH FELLOW

A **POSTDOCTORAL POSITION** is available immediately in the Movement Disorders Neurogenetics Laboratory at Columbia University to study the molecular basis of movement disorders. The Fellow will be involved with DNA sequencing and sequence analysis, RNA, and protein analytic techniques. The candidate must have a Ph.D. degree and a strong background in biochemistry and molecular genetics. Send curriculum vitae and the names of three references to: **Dr. Michael Neystat, Department of Neurology, Columbia University, 630 West 168th Street, New York, NY 10032. Columbia University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION

POSTDOCTORAL POSITION available immediately to conduct research on coordinately expressing multiple enzymes from plant secondary product metabolic pathways in transgenic plants using novel viral vectors. Experience in plant biochemistry and strong molecular biology skills are required. Send curriculum vitae and names of three references by May 28, 1996 to: **Dr. Brandt G. Cassidy, Plant Biology Division, The Samuel Roberts Noble Foundation, P.O. Box 2180, Ardmore, OK 73402.**

POSTDOCTORAL POSITION is available in the Division of Hematology at The Children's Hospital of Philadelphia and the Department of Pediatrics of the University of Pennsylvania. Interests of the laboratory include structure-function relationships and regulation of expression of the vitamin K dependent clotting factors. The laboratory has recently received major funding to develop experimental basis for gene therapy of hemophilia B. Institutional resources include the Institute for Human Gene Therapy at Penn. Interested candidates should send curriculum vitae, statement of research experience, and names of three references to: **Dr. Katherine High, The Children's Hospital of Philadelphia, Division of Hematology, 324 South 34th Street, Philadelphia, PA 19104. Email: high@email.chop.edu. Equal Opportunity Employer/Affirmative Action/Minority/Female/Disabled/Veteran.**

POSTDOCTORAL POSITION available to investigate fundamental mechanisms of carcinogenesis and cell growth control. Current projects include an analysis of the mdm2 oncogene in pathways of transformation, response of cells to DNA damage, apoptosis, and protein-protein interactions. A talented individual with a strong background in molecular and/or cellular biology or biochemistry preferred. Send a curriculum vitae with the names, addresses, and telephone numbers of two to three references to: **Dr. Donna George, University of Pennsylvania School of Medicine, Department of Genetics, Stellar-Chance Research Building, 422 Curie Boulevard, Philadelphia, PA 19104-6069.**

POSTDOCTORAL POSITIONS HIV/SIV Pathogenesis

Two **POSTDOCTORAL FELLOWSHIPS** are available immediately. The first position involves the molecular and biological characterization of an HIV-1 isolate obtained from a chimpanzee with AIDS. The second position involves characterizing the immunopathogenesis of the acutely lethal SIVsmmPBj isolate. Recent Ph.D.s with experience in lentiviruses (HIV/SIV) and molecular biology are sought. Send curriculum vitae, statement of research interests, and names of three references to: **Francis J. Novembre, Ph.D., Yerkes Regional Primate Research Center, 954 North Gatewood Road, Atlanta, GA 30322. Emory University is an Equal Opportunity/Affirmative Action Employer.**

Parke-Davis Pharmaceutical Research Division of the Warner Lambert Co. has immediate openings for Post Doctoral Fellows in the following departments.

Signal Transduction Department Post Doctoral Fellowships

Post Doctoral positions are available for highly-motivated, independent individuals interested in applying modern techniques in molecular and cellular biology to explore the actions of hormones and growth factors. The department consists of a highly interactive group of scientists dedicated to the investigation of the basic mechanisms underlying metabolic, cardiovascular, neurological and proliferative diseases. Research opportunities are available in the laboratories of:

Stuart Dackor: Growth factor receptor signaling pathways

John "Wick" Johnson: Mechanism of insulin secretion

Todd Loff: Regulation of transcription by hormonal and metabolic signals

Alan Saltiel: Mechanism of insulin action; protein kinases and phosphatases

Applicants should be recent M.D. or Ph.D. graduates with strong backgrounds in molecular and cellular biology, biochemistry, pharmacology, physiology or a related area. However, overall ability, enthusiasm and motivation are more important than the precise nature of previous experience. Interactions with our colleagues at nearby University of Michigan and other academic institutions are encouraged. **Job Code: CJM/ST**

Chemical Development Department and Pharmacokinetics/Drug Metabolism Department Post Doctoral Fellowship

The successful candidate will engage in the synthesis of novel prodrugs of lead CCK B receptor antagonists. This individual must have a Ph.D. in Organic Chemistry or Medicinal Chemistry with a strong background in Organic Synthesis, and in the use of modern instrumentation techniques. Good interpersonal skills are essential for the successful outcome of this collaborative effort.

Job Code: CJM3075

At PARKE-DAVIS you will find an exciting work environment; excellent salary, benefits, and real opportunities for career growth. For consideration, please send resume indicating the proper Job Code, to: **Parke-Davis Pharmaceutical Research, 2800 Plymouth Road, Ann Arbor, MI 48105.**

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Faculty Positions Massachusetts General Hospital Harvard Medical School Cutaneous Biology Research Center



Applications are invited for two positions at the Assistant Professor level to join the Cutaneous Biology Research Center (CBRC). The CBRC is dedicated to the proposition that cutaneous biology can best be advanced by the juxtaposition of cell and developmental biologists performing basic research with scientists focusing on the biology of skin in a dynamic research environment. Individuals with a strong background in either molecular, cellular or developmental biology are sought to perform basic research and develop model systems in areas relevant to the understanding of the biology of the skin. Applicants must have a Ph.D. and/or MD degree and relevant postdoctoral experience. Only applicants with a strong research record and the potential to develop or continue extramurally supported research programs will be considered. Individuals with a demonstrated ability to develop imaginative approaches to important biological questions are particularly encouraged to apply. One position will be targeted to individuals with a basic research interest in the cell biology of pigmentation or aging, while the other position is open to individuals in any biological discipline.

The current CBRC faculty of 11 investigators is studying the processes of differentiation, proliferation, pattern formation, apoptosis and tissue interactions through the analysis of transcription factors, signaling molecules and extracellular matrix molecules primarily using genetic approaches. These investigations are being pursued using cell culture, mice, drosophila and the avian embryo. The CBRC occupies 35,000 square feet of fully equipped laboratory space in a multidisciplinary research facility. Generous start-up funds are available.

Interested individuals should send curriculum vitae, reprints, a statement of research and future directions, along with names, addresses, telephone and FAX numbers of three references to:

Paul F. Goetinck
Chair, Faculty Search Committee
Cutaneous Biology Research Center
Massachusetts General Hospital
Building 149, 13th Street
Charlestown, MA 02129

The MGH/Harvard Cutaneous Biology Research Center is a committed Equal Opportunity/Affirmative Action Employer. Minorities, women, handicapped and veterans are encouraged to apply.

GLOBAL CAREER OPPORTUNITIES

Chair in Zoology

Applications are invited for the Chair in Zoology in the Faculty of Science and Technology in the Melbourne metropolitan area.

The School of Zoology has strong research interests in ecological and physiological zoology including: entomology; conservation biology; analytic electron microscopy and microprobe analysis of epithelial transport; muscle and cell physiology; behavioural and community ecology; reproductive and developmental biology and physiological ecology of marsupials; respiratory and ecological physiology; vertebrate palaeontology; biogeography and freshwater biology.

Applicants must have a proven capacity for academic leadership, a demonstrably broad knowledge of zoology and a distinguished record of research and scholarship at the whole animal, organ or cell level in any field of zoology. The appointee will be expected to contribute to teaching at all levels. It is also expected that the appointee will serve as Head of School for an initial term of five years, after which the normal election process will resume.

The University reserves the right not to make an appointment or to make an appointment by invitation.

Salary: A\$81,780 per annum.

Applications close 10 June 1996.

Further information may be obtained from the Dean of the Faculty of Science and Technology, Professor D P Kelly (ph +613 9479 1657). Application details may be obtained from Ms J Carr, secretary to the selection committee (ph +613 9479 2026, fax +613 9471 0369 or email perjc@lure.latrobe.edu.au).

La Trobe University supports Affirmative Action recruitment strategies and the principles of Equal Opportunity in all appointments and provides a smoke-free work environment.



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MELBOURNE AUSTRALIA

POSTDOCTORAL FELLOWSHIPS IN MOLECULAR AND CELL BIOLOGY AT THE NIH

Postdoctoral Fellowships are available in the Genetics and Biochemistry Branch, NIDDK, NIH. The Branch is similar to a small academic department and has excellent laboratory facilities. The intramural program of the NIH offers an outstanding research environment. The Branch is located on the main intramural campus of the NIH in Bethesda, Maryland, a 20 minute ride from Washington, D.C. Applications are invited from individuals of the highest caliber with Ph.D., M.D., or M.D., Ph.D. degrees. Physicians may participate in either the NIH Interinstitute Endocrine or the NIH Interinstitute Medical Genetics Training Programs. Current research interests of the staff with positions available include:

■The targeting of proteins to the secretory pathway in both eukaryotes and prokaryotes is being studied using a combination of biochemical and genetic approaches. Current projects focus on the mechanism of signal sequence recognition, the regulation of protein targeting by GTPases, and the function of a prokaryotic homolog of the signal recognition particle (SRP). (HARRIS BERNSTEIN)

■Biochemistry and molecular biology of homologous recombination in eukaryotes and prokaryotes, the structure and function of novel triplex DNAs, new methods for gene mapping and cloning (e.g. RARE) and gene targeting in mammalian cells, gene rearrangements in eukaryotes. (DAN CAMERINI-OTERO)

■Our lab focuses on DNA repair and recombination. We are interested in a mechanistic understanding of how MutS and MutL mismatch repair enzymes contribute to maintenance of genome stability. We are using molecular biology and biochemical approaches to identify structural elements involved in protein-DNA and protein-protein interactions. We are also characterizing branch migration of DNA Holliday junctions, a key intermediate in genetic recombination. (PEGGY HSIEH)

■Molecular basis of mechanisms involved in hormonal and developmental control of gene expression. The immediate focus is on the transacting factors of the steroid/thyroid hormone receptor gene superfamily. Future work will use homologous recombination to target genes of regulatory nuclear proteins. (VERA NIKODEM)

■The role(s) of small nucleolar ribonucleoprotein particles (snoRNPs) in pre-rRNA processing in vertebrate and invertebrate model systems is being examined using molecular and biochemical approaches. Current work focuses on the interactions between pre-rRNA and both the RNA and protein components of the snoRNPs to learn more about the mechanisms by which the snoRNPs affect pre-rRNA processing and ribosome assembly. (BRENDA PECULIS)

■Current projects involve gene targeting to generate mouse models of human diseases, development of gene therapy for treatment of neurodegenerative disorders, and the study of ganglioside function in the nervous system. (RICK PROIS)

■The functional role of a family of neural-specific transcription factors, class III POU domain genes, is being investigated using a combination of molecular and embryological approaches in vertebrate embryos. The regulation of these POU domain genes by growth factors during gastrulation and neurulation is also under investigation. (SHERYL SATO)

Interested candidates should send a letter stating their interests, their curriculum vitae and list of publications, and the names and addresses of three references to:

DR. R. DANIEL CAMERINI-OTERO
CHIEF, GENETICS AND BIOCHEMISTRY BRANCH
BUILDING 10, ROOM 9D-15
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20892
TELEPHONE: 301-496-2710

University of Minnesota Cancer Center Postdoctoral Associate Positions

The University of Minnesota Cancer Center announces the availability of three postdoctoral associate positions to conduct research under the direction of the newly appointed holder of the Winston R. and Maxine H. Wallin Chair in Cancer Prevention. This research will be carried out in the brand new University of Minnesota Cancer Center Research Building, scheduled to open July 1996. The details of each position follow:

Analytical Chemist or Biochemist — Cancer Research/Biomarkers

Apply modern analytical techniques to important problems in cancer research. Ultra-sensitive mass spectrometric-based methods will be developed to detect carcinogen-DNA adducts, carcinogen-protein adducts, or carcinogen metabolites in human tissues or urine. Experience with modern chromatographic techniques is essential, but hands-on experience with mass spectrometry is not required.

Bioorganic Chemist — Cancer Research/Chemoprevention

Participate in a program developing new agents that can inhibit chemical carcinogenesis. We are investigating the mechanisms by which certain naturally occurring and synthetic compounds inhibit the development of lung cancer in laboratory animals and humans exposed to carcinogens in tobacco smoke. Approaches to be used include analysis of carcinogen metabolites and DNA adducts by HPLC, GC-MS, and immunoassay.

Mass Spectrometry — Cancer Research

Apply your working knowledge of mass spectrometry to important problems in cancer research. We are developing ultrasensitive mass spectrometric methods to detect metabolites, DNA adducts, and protein adducts of carcinogens using GC-MS, LC-MS, and tandem MS techniques. Hands-on experience with modern mass spectrometers is required. The position involves methods development and mass spectrometric service to others in the laboratory.

If you are interested in one of these positions and currently hold a doctorate degree, please apply by forwarding your curriculum vitae, a brief statement of your research interests, the names and addresses of three references, and a cover letter regarding the position you are interested in. This information should be sent to: **Stephen S. Hecht, Ph.D., University of Minnesota Cancer Center, Box 806 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455, ATTN: Cindy Prange.** Applications must be postmarked by **May 15, 1996.**

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



Assistant/Associate Professor Vestibular Physiology Harvard University



The Department of Otolaryngology at the Harvard Medical School seeks a qualified investigator for appointment at the Assistant or the Associate Professor level to establish a new vestibular physiology laboratory at the Massachusetts Eye & Ear Infirmary.

Interested applicants should have a doctorate (Ph.D. or M.D.) with expertise in vestibular physiology. Special skills should include some combination of the following: neurophysiology, histology, bioengineering, and computer science. Responsibilities include: setting up and administering a new laboratory, conducting original research in an area of expertise, seeking external research funding, assisting with faculty and student research and participating in the teaching of otolaryngology residents. Participation in the Harvard-MIT Speech and Hearing Sciences doctoral program is also an option.

Preference will be given to applicants who have an established record of nationally recognized research, a history of obtaining external research funding and past history of successful collaborative research. Applicants should be willing to commit part-time to research collaborations with other Departmental investigators (audiology and vestibular researchers and auditory researchers at the Eaton Peabody Laboratory) or with orientation researchers in the Man-Vehicle Laboratory at the Massachusetts Institute of Technology. Qualified female and minority candidates are particularly encouraged to apply. Interested applicants should send a curriculum vitae, reprints of published research articles, and the names of at least three individuals who are willing to serve as references to **Conrad Wall, III, Ph.D., Director, Jenks Vestibular Diagnostic Laboratory, Massachusetts Eye & Ear Infirmary, 243 Charles Street, Boston, MA 02114.** To be sure of full consideration, applications should be received by September 1, 1996. Applications will be considered until the position is filled. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIP PARASITE IMMUNOLOGY Department of Veterinary Science University of Arizona, Tucson

Applications are invited from highly qualified scientists to participate in an NIH-funded research program on the cellular immunology of *Cryptosporidium parvum* infections in murine models. The two to five year position involves development of CD4⁺ and CD8⁺ T cell clones and characterization of mucosal cytokine responses. Starting salary will be in the range \$21,000 to \$22,000. Minimum qualifications include a Ph.D. degree, M.D./Ph.D., or Ph.D., with a strong background in immunology, tissue culture, some publications relevant to parasitology and/or immunology, and willingness to conduct bench research as part of an interactive team. To apply, send a curriculum vitae outlining previous research achievements and experience, along with contact details for three referees, to: **F. Javier Enriquez, M.D., Ph.D., Department of Veterinary Science, Building 90, Room 202, University of Arizona, Tucson, AZ 85721, U.S.A.** Closing date: May 17, 1996.

POSTDOCTORAL POSITIONS Cell-Mediated Immunity and Monoclonal Antibodies

The Indiana University School of Medicine invites applications for **TWO POSTDOCTORAL** positions. One position will be for the study of cellular immune mechanisms in a mouse model of pulmonary histoplasmosis. Applicants must have experience in cellular immunology. The second position is for the production and characterization of monoclonal antibodies against *Histoplasma* antigens. Applicants must have strong background in monoclonal antibody production. Both positions, which are available June 1996, require an individual with a Ph.D. in a related field and who is organized and self-motivated. Applicants should send a curriculum vitae and arrange for three letters of recommendation to be sent to: **L. Joseph Wheat, M.D., Department of Medicine/Infectious Diseases, Indiana University School of Medicine, 1001 West 10th Street, OPW 430, Indianapolis, IN 46202-2897.** Email: Joe@idwish.dmed.iupui.edu. Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION

An immediate opening is available to study a multifunctional receptor LRP and its ER chaperone, RAP (see *EMBO J.* 14:2269, 1995). The areas of research will include both the biology of the receptor and the mechanism for the chaperone function of RAP. Experience in molecular and cellular biology is desirable. FAX curriculum vitae and names of three references to: **Dr. Guojun Bu, Washington University School of Medicine, Box 8116, St. Louis, MO 63110.** FAX: 314-454-2685. Washington University is an Equal Opportunity/Affirmative Action Employer. Minority/Female/Disabled/Veteran.

POSTDOCTORAL POSITIONS FOR THE STUDY OF BRAIN INJURY

POSTDOCTORAL POSITIONS are available for an NIH-funded training grant examining both the neuronal and vascular consequences of traumatic brain injury. Research activities within the training grant are supported by eleven established investigators who employ various contemporary *in vivo* and *in vitro* approaches in both the clinical and laboratory setting. Research interests of the group include, but are not limited to, investigations of traumatically induced receptor-mediated pathology, axonal failure, synaptic loss with adaptive and maladaptive synaptic rearrangements, the increased potential for epileptic seizure discharge, changes in CaM kinase II in mediating signal transduction, and the metabolism and function of glycosphingolipids. Complementing these studies in the brain parenchyma, other research efforts focus on the brain's vascular front in order to understand those factors related to fatty acid metabolism and free radical production in traumatic brain injury. The successful candidate will have a Ph.D. or M.D. These positions are available to U.S. citizens or permanent residents. Stipends are consistent with experience and with those established by the NIH. For further information contact: **Training Director, Commonwealth Center for the Study of Brain Injury, MCV/VCU Neuroscience Center, Medical College of Virginia, Virginia Commonwealth University, P.O. Box 980709, Richmond, VA 23298-0709.** Women and minorities are encouraged to apply.

POSITIONS OPEN

POSTDOCTORAL POSITIONS available to study (a) effects of carotenoids on smoke-induced oxidative damage or (b) effect of melanins on photooxidative damage. Applicants must have a Ph.D. or equivalent in pharmacology, toxicology, chemistry, biochemistry, or related discipline. Experience in analytical chemistry, mass spectrometry, or cell culture desirable. Send curriculum vitae and names of three references to: **Daniel C. Liebler, Ph.D., Department of Pharmacology and Toxicology, College of Pharmacy, P.O. Box 210207, The University of Arizona, Tucson, AZ 85721-0207.** Email: liebler@tonic.pharm.arizona.edu. The University is an Equal Employment Opportunity/Affirmative Action/ADA Employer. Women and minorities are encouraged to apply.

POSTDOCTORAL AND ASSOCIATE SCIENTIST

POSTDOCTORAL AND ASSOCIATE SCIENTIST positions available at the Weis Center for Research in Danville, Pennsylvania in the laboratory of **Dr. Lawrence Rothblum**. The successful applicants will have a Ph.D. in biochemistry, cell biology, or microbiology with experience in molecular biology. Experience with Baculovirus and/or mammalian viral vectors is desirable. The project involves studies on the mechanism of transcription by RNA polymerase I and its regulation [see Cavanaugh *et al.*, *Nature*, 374:177-180, 1995, and Henpel *et al.*, *Mol. and Cell. Biology*, 16:557-563, 1996.] The Weis Center for Research is a well-equipped, modern research facility in a semirural environment with easy access to major cities of the Northeast. Competitive salary and fringe benefits are available. Please send curriculum vitae with the names and telephone numbers of three references to: **Geisinger Human Resources (LR), 100 North Academy Avenue, Danville, PA 17822-1529.**

UNIVERSITY OF PENNSYLVANIA Department of Pathobiology Postdoctoral Immunologists

TWO POSTDOCTORAL POSITIONS are available to study the role of cytokines in the regulation of the immune response to parasitic infections. One position involves an investigation of the neuropathogenesis of toxoplasmic encephalitis. Previous experience in neuroimmunology would be preferred. The second position is to study the role of co-stimulatory molecules and cytokines in the regulation of NK cell responses during infection. Experience in parasitology is not required for either position, but a good background in immunology is a prerequisite. Successful candidates would be joining a recently established laboratory within newly renovated and fully equipped laboratories.

Applications in the form of a full curriculum vitae with the names, addresses, and telephone numbers of two referees should be sent to: **Dr. Christopher Hunter, Department of Pathobiology, 3800 Spruce Street, Philadelphia, PA 19104.**

IMMUNODIAGNOSTIC TEST DEVELOPMENT

SCIENTISTS required to develop biosensor-based immunodiagnostic test kits. Successful candidates will have experience in test development using ELISA or other relevant technologies. Experience in the diagnostic industry is preferable. Candidates with B.S., M.S. or Ph.D. degrees are encouraged to apply. We offer competitive salaries, benefits, and stock options package. Please send résumé by 24 May 1996 to: **DDx, Incorporated, Attn: OpTest Assay HR, 2830 Wilderness Place, Boulder, CO 80301.** FAX: 303-442-0780.

ENVIRONMENTAL AND RESEARCH SENIOR SCIENTIST/TOXICOLOGIST

The ILSI Risk Science Institute, a nonprofit scientific institute working in the areas of health and environmental risk assessment, seeks a **SENIOR SCIENTIST** with a working knowledge of human health risk assessment and expertise in reproductive/developmental toxicology. Position requires a Ph.D. in toxicology or related biological science and at least three years of professional experience. Successful applicant will work with scientists from diverse disciplines on issues related to human health risk assessment. Responsibilities include coordinating and staffing technical working groups, evaluating and analyzing technical data, and drafting and editing manuscripts, as well as creating project concepts and identifying and soliciting funding support for projects. Position level and salary commensurate with experience. Send résumé to: **Human Resources, ILSI, 1126 Sixteenth Street, N.W., Washington, DC 20036.** FAX: 202-659-3859. Equal Opportunity Employer/Minorities/Females.

ANNOUNCEMENT

Workshop on Molecular Evolution
August 4 to August 16, 1996 plus extended special topics August 16 to August 23, 1996

A series of lectures and discussions exploring multiple approaches to molecular evolution, with a computer laboratory for phylogenetic and sequence analysis. Current topics in molecular evolution including the theoretical basis for comparative sequence analysis and phylogenetic tree construction will be addressed. Enrollment limited to 60 students.

Co-Directors: **Mitchell L. Sogin**, Marine Biological Laboratory and **Daniel Davison**, University of Houston. Faculty: **Mary Berbee**, University of British Columbia; **W. Ford Doolittle**, Dalhousie University; **Joseph Felsenstein**, University of Washington; **David Hillis**, University of Texas at Austin; **Lec Hood**, University of Washington; **Gerald F. Joyce**, Research Institute of Scripps Clinic; **David Maddison**, University of Arizona; **Mike Miyamoto**, University of Florida; **Roger Milkman**, University of Iowa; **Lisa Nagy**, University of Arizona; **David Nelson**, Baylor College of Medicine; **Gary Olsen**, University of Illinois; **Bill Pearson**, University of Virginia at Charlottesville; **Rudy Raff**, Indiana University; **Margaret Riley**, Yale University; **Monica Riley**, Marine Biological Laboratory; **David Swofford**, Smithsonian Institution, Washington, D.C.; **Steven Thompson**, Washington State University; **Bruce Walsh**, University of Arizona.

Course Fee: \$800 (room and board available at no additional charge)

Application Deadline: May 14, 1996

For information and application forms contact: **Carol Hamel, Admissions Coordinator, Marine Biological Laboratory, 7 MBL Street, Woods Hole, MA 02543.** Telephone: 508-289-7401; Email: admissions@mbi.edu; WWW: <http://www.mbl.edu>.

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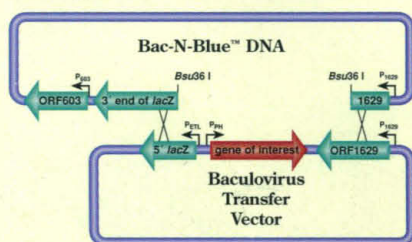
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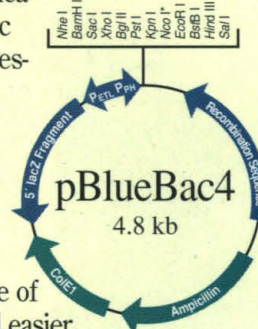


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