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Figure 1. Colonies were screened for the TGF- B1 gene with a fluorescein-labeled oligonucleotide probe and Enhanced Luminol. This film demonstrates results obtained using the Renaissance 3". End Labeling Fluorescein KII with Antifluorescein-HRP (NEL823) and the detection substrate Enhanced Luminol (NEL201). Discs were exposed to Reflection film for 15 minutes.

Figure 2. Mouse B-actin was detected using a fluorescein-labeled ssRNA probe and ready-to-use CDP-Star. This film demonstrates results obtained using Renaissance RNA Fluorescein Labeling Kit with Antifluorescein-AP (NEL633) in conjunction with ready-to-use CDP-Star (NEL601). Blots were exposed to Reflection film for 5 minutes.

Figure 3. The v-Fos gene was detected in 125 ng of biotted mouse genomic DNA in less than 5 minutes using CDP-Star. This film demonstrates results obtained using the Renaissance Random Primer Biotin Labeling Kit with Streptavidin-AP (NEL604) in conjunction with ready-to-use CDP-Star (NEL601). Blots were exposed to Reflection film for 5 minutes.



NENTM Life Science Products

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PRODUCTS & MATERIALS

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and quantification of organic liquids, gels, pastes, polymers, and pliable solids. Pike Technologies. For information call 608-274-2721 or circle 145 on the reader service card.

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Tube-O-DIALYZER allows the dialysis of small samples without taking the samples out of a tube, which eliminates any loss. A simple



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Pipettor

The Pipet-Plus Latch-Mode pipette is designed to reduce the variables inherent in traditional pipettes. It offers the advantages of a microprocessor-controlled electronic pipette without the complexity or cost. The user simply pulls the trigger to aspirate

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Beam time is allocated on the basis of a review of the submitted research proposals by a Programme Advisory Committee. Access is free of charge for all non-propriatory research. The facility is supported under the European TMR Programme for Access to Large-Scale Facilities and limiting funding for travel and subsistence is available for researchers from EU countries.

Guidelines for submitting a proposal and further information on FELIX and ancillary equipment are available by internet

(http://www.rijnh.nl/DEPARTMENTS/LASER/FELIX/felix.html) or via

Mrs Laura M.P. van Veenendaal

FOM Institute for Plasmaphysics PO Box 1207, NL 3430 BE Nieuwegein The Netherlands e-mail: lauravv@rijnh.nl fax: +31 3060 31204

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and depresses the plunger to dispense. The pipette incorporates a patented variable speed aspiration rate controller in conjunction with a magnetic latch and trigger-release mechanism to provide consistently greater precision, user-to-user and sampleto-sample. The heavy blow-out spring found in traditional pipettes is eliminated. **Rainin Instrument. For information call 510-654-9142 or circle 149 on the reader service card.**

Literature

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A SCIENCE Advertising Supplement

Open Minds, Open Horizons

Careers in Biotechnology and Pharmaceuticals



Turn to Page 442

for the special Careers in Biotechnology and Pharmaceuticals Advertising Supplement which explores new career opportunities in the life sciences.





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Full-Page Recruitment Advertisement Directory

Open Minds, Open Horizons

Careers in Biotechnology and Pharmaceuticals

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Open Minds, Open Horizons: Careers in Biotechnology and Pharmaceuticals

S unlight, optimism, the parting of clouds after health care regulation anxiety, reorganization, and downsizing—could 1997 be a year-long sigh of relief for the biopharmaceutical industry? From most accounts, the health care industries are feeling stronger than at any time since 1993. It's a world market now. New technologies, especially in genomics and bioinformatics, have created new opportunities. Jobseekers need tools, qualifications, interpersonal skills, and a good, close fit with company needs.

Below, we hear from experts at Arris Pharmaceuticals, Bristol-Myers Squibb, Genentech, George Mason University, and SmithKline Beecham Pharmaceuticals UK about the state of biopharmaceutical careers for scientists. In this brighter clime, all are looking for minds as wide open as the horizon.

WHAT THE TALENT HUNTERS SAY

SAN DIEGO, CA—Bente Hansen, senior vice president and managing director of biotechnology at DHR International, a retained executive search firm headquartered in Chicago, says, "It's an optimistic time. More and more companies are having their first commercial successes. Hiring is both very intensive and extremely competitive." Doug Besen, CEO of Besen Associates in Mountain Lakes, New Jersey, says, "So far, 1997 is one of the most aggressive years in terms of hiring that we've ever seen. After all the restructuring, companies are discovering that they're short of people in key areas."

Where are those key areas? Ron Coelyn, a partner at Spencer

Stuart, a worldwide retainer firm specializing in health care and headquartered in Los Angeles, points out that contract research organizations (CROs) are in great demand throughout the industry. "CROs now exist for almost every step in drug development," Coelyn says. "It's not uncommon to find a company that is only a CEO with a handful of R&D people, with regulatory and drug development farmed out to a big pharma or a CRO."

-By John Timpane

Some needs remain strong and steady: molecular biology, genetics, pharmacology, and organic synthetic chemistry. And all three of our experts mention the huge demand and small talent pool regarding bioinformatics and combinatorial chemistry. All agree that experience in clinical research is very attractive at the moment.

"As more companies move into production," Hansen says, "the PhD and/or MD with five to ten years of experience in Phase I, II, and III is becoming more and more sought after. On the BS and MS level, the clinical research associate position is in great demand right now." Besen says, "MDs or PhDs with experience in clinical pharmacology, especially with dosage form development and drug metabolism, can look forward to rewarding careers, in either a big pharmaceutical company or a CRO." Coelyn adds that consulting organizations with scientific expertise are also in great demand and "will pay big dollars for strong PhDs with good research backgrounds." On the discovery research side, areas of need include oncology; cardiovascular medicine; anti-infective/antiviral research, including HIV research; and CNS medicine. Gerontology is an area of intense competition, that includes Alzheimer's disease, osteoporosis, and diabetes. "In

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

my opinion," says Besen, "the gold mine of the future could well be a new line of antibiotics."

Hansen reports that in many prime biotech regions—the San Francisco Bay area, the Philadelphia-New York corridor, Boston, Boulder, the Northwest, the Carolinas, and San Diego—she has seen an increase in hiring. "The BIOCOM/san diego Workforce Committee estimates that the national biotechnology work force will grow from 250,000 to one million in the next decade," she says. "We'll truly be coming into maturity as companies receive FDA approval and prepare for the manufacturing stage."

CHANGING THE SIGNS: POSTGENOMICS AND MULTIDISCIPLINARY SCIENCE AT ARRIS PHARMACEUTICALS

SOUTH SAN FRANCISCO, CA—Steven Smeekens, group leader in genomics for Arris Pharmaceuticals, Inc., quips that with the influx of start-up biotechs into South San Francisco, and the gathering excitement over genomics and bioinformatics, the famous words on Sign Hill should be changed from SOUTH SAN FRANCISCO: THE INDUSTRIAL CITY to SOUTH SAN FRANCISCO: THE BIOTECH CITY.

At Arris, the accent is on proteases and protease inhibitors, applying, as Smeekens says, "genomic and postgenomic technologies to target identification and drug development." Notice the word *postgenomic*. Smeekens agrees that we are now in a postgenomic world: "We have a wealth of information about interesting genes. Now we're at the functional stage, trying to figure out exactly what these genes do, which ones are relevant to our interests, and how best to identify, perturb, and exploit them to produce novel therapies."

Scientists at Arris are performing expression profiling specifically for proteases—getting, in Smeekens's words, "a much bigger picture than people have been able to get in the past." These efforts mirror the new collaborative science. Functional genomics calls for a

TURNING ON A DIME:

LAURIE TORRES OF GENENTECH

SOUTH SAN FRANCISCO, CA—Laurie Torres, project manager for cross-functional projects in the human resources department of Genentech, has much to say about what she calls "the human resources point of view about hiring:"

Industry Mood. The biopharmaceutical industry does seem somewhat happier these days. Biotech in particular is a fairly healthy business. There seems to be a bit more venture capital money, a few more companies popping up. Also, biotech now has quite a few products on the market. People are seeing the results of their efforts. That motivates us all.

The Need for Flexibility. Biotech is ever-changing, turning on a dime. We absolutely have to have individuals who are flexible and adaptable, ready and willing to change projects. They need to realize that even though we're an organization that focuses on research, we are a business—we need to focus on things that are useful and will work.

Working Across Disciplines. Industrial science is not just science. Everyone works across department and disciplinary boundaries. Discovery scientists may have the opportunity to interact with employees in medical affairs, regulatory affairs, and marketing.

Fields and Skills in Demand. The steady demand for good chemistry and molecular biology skills has not changed. But now we're starting to stress the nontechnical skills—leadership skills, or communications, or strong influencing skills.

How can we tell whether a job candidate has these skills? It's hard. In our in-depth interview process, we bring a variety of folks into the interview team, some to probe the technical side, some to engage the nontechnical. Seeing a candidate from these different perspectives often gives us a good idea. Candidates, for their part, are becoming more savvy, coming better prepared for interviews, realizing that they're going to be interviewed for both kinds of skill sets.

It has always been a challenge to find biostatisticians to work in our clinical effort. It often seems as though a great many companies develop the same need all at once, competing for the same small applicant pool. Bioinformatics people are also difficult to find.

Crossover Degrees. The MBA with a science background is useful; if you want to shift from the research side into the business side, it's good to be able to speak both languages. But now we're seeing—and looking for—true crossover science degrees, in which people acquire nearly equal expertise in more than one science.

Doing Homework on the Industry and the Company. People should educate themselves about the company and industry they're going into. Peruse the Web pages of your target companies. There you'll find annual reports and other information on the company's research emphases and financial status. You can also peruse SEC filings, which provide really useful information. Above all, you'll find job postings.

Adding Value to Your Background. Since hands-on research experience is such a big plus, I'd encourage people to do internships or co-ops. They are offered in a variety of academic and corporate environments. Such experience tells us you have some idea of how to function in the business of science. If you have that on your résumé, you are automatically a step above and ahead of everyone who doesn't. This is an immunofluorescent cancer cell from a tumor. Today, with some seven million new cases of cancer diagnosed worldwide each year, Roche scientists are developing innovative therapies to treat several forms of the disease. They include breast, colon and kidney cancer, as well as non-Hodgkin's lymphoma and malignant melanoma.

XPLORING THE FRONTIERS OF BIOMEDICAL SCIENCE

Globally active, research-driven, responsible:

Vision, foresight and *the pursuit of scientific excellence* have made Roche a world leader in biomedical innovation. We were among the first companies to recognize the importance of *biotechnology* in biomedical science, which has led to the development and manufacturing of recombinant drugs including the first human interferon.

Today, Roche scientists at our New Jersey research center are concentrating on pharmaceutical discovery projects in oncology, metabolic disorders and inflammation/autoimmune diseases. Roche is also devoting significant resources to *new and emerging technologies* that will keep us competitive well into the future. They include *rational drug design*, *genomics*, *combinatorial chemistry and bioinformatics*.

The rigorous and relentless pursuit of biomedical *innovation* is both the foundation of our reputation and the strategic key to our future success. And the *creative talent* and *ingenuity* of our scientists are what drive us toward our ultimate goal - *effective treatments that extend and enhance people's lives*.

If you're interested in working in an intellectually stimulating and rewarding research environment that has attracted some of the brightest scientists in the world, please forward your resume to: Stella Strazdas, Dept. 7SS35DW, Hoffmann-La Roche Inc., 340 Kingsland Street, Building 76, 5th Floor, Nutley, NJ 07110. We are an equal opportunity/affirmative action employer.



Research Information Opportunities

Zeneca Pharmaceuticals, a worldwide leader in the discovery, development and marketing of innovative pharmaceuticals, has the following openings for Information Science and Information Systems professionals at U.S. corporate headquarters in suburban Wilmington, Delaware:

INFORMATION SCIENCE

Information Scientist (Code 164)

The Information Science and Library Group seeks an individual with extensive knowledge of biomedical information resources, who has demonstrated effective use of these sources towards the provision of value-added information services. The successful candidate will use these skills to contribute to a wide variety of information science and library activities, and will provide expertise in the evaluation, selection and implementation of new information resources and services for a staff of highly trained bioscientists and clinicians.

Excellent computer and teamworking skills will be critical to effectively develop and deliver creative information solutions. Outstanding communication and interpersonal skills, and a broad scientific background are essential. A strong service orientation for providing high-quality, in-depth information to support drug discovery and development is also needed.

This position requires a BS/MS/PhD in clinical sciences, drug information, pharmacology or pharmacy, and a minimum of five years' experience in an information or library science position in the pharmaceutical or healthcare industry. An MS or MLS in Library or Information Science is desirable.

Scientific Competitive Intelligence Analyst (Code 4456)

The IS&L Group is also looking for an individual to scientifically evaluate competitive research information against Zeneca's research activities. This will involve providing key input and making recommendations on research strategy, technical merit of competitors' R&D pipeline, potential licensing candidates, and opportunities for Zeneca's R&D pipeline. This position requires a PhD in a technical discipline of one of the major R&D areas with 5-10 years' experience in pharmaceutical discovery, or an MS degree and 10-15 years' experience in pharmaceutical discovery. Experience in the evaluation of scientific data and information is essential. The position requires a history of strong performance and recognized scientific capability as evidenced by publications and active participation on drug discovery projectteams. Excellent interpersonal and communication skills are essential.

INFORMATION SYSTEMS

Scientific Groupware Developer (Code 158)

The Information Systems Group has an opening for a Research Information Specialist with 2-4 years' experience in developing groupware applications, e.g. Domino/Lotus Notes, WWW, MS Exchange, etc. Experience with Oracle relational databases is required. Broad programming experience with modern languages and operating systems is expected. The position requires familiarity with the scientific research process. A degree in science or an information-related discipline is required.

This position will have overall responsibility for the IS and IT side of information management within the Research function in Wilmington. We will expect the person to evaluate, recommend and implement groupware tools for scientific research projects.

The successful candidate will have excellent active listening skills and excellent verbal and presentation skills. We also expect demonstrated leadership and influencing skills. It will be critical to develop effective working relationships with managers and scientists in the Research community internationally.

Zeneca offers competitive salaries, excellent benefits including relocation assistance, and the opportunity for growth with one of the world's leading pharmaceutical organizations.

To apply, please submit your resume and salary requirements, specifying position code number, to: **Anne Hayden, Zeneca Pharmaceuticals, 1800 Concord Pike, P.O. Box 15437, Wilmington, DE 19850-5437. E-Mail: Anne.Hayden@phwilm.zeneca.com** An Equal Opportunity Employer M/F/D/V.



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Opportunities for Growth Drug Metabolism and Pharmacokinetics

SmithKline Beecham has a strong international reputation for innovative pharmaceutical research and development. Supporting these activities is our expert Drug Metabolism and Pharmacokinetics (DMPK) team, utilizing state-of-the-art technology to drive constant innovation. Owing to an exciting discovery and development pipeline, we are making a significant investment in the expansion of DMPK. This makes it an ideal time to join the DMPK Team and develop your career. We are seeking dynamic, organized individuals with excellent written/verbal communication skills to contribute their expertise to our multi-disciplinary environment.

Pharmacokinetics

Assistant Director, Preclinical Pharmacokinetics

As a representative for DMPK, the team leader will be responsible for all aspects of preclinical pharmacokinetic evaluation of experimental molecules. Qualified candidates must possess a PhD in Pharmacology, Pharmacokinetics, Pharmaceutics, Biochemistry or a related area with 5-7 years' experience in preclinical pharmacokinetics. Experience in pharmacokinetic modeling, extrapolation of preclinical data to humans and designing strategies for studying PK/PD relationships are desired; a strong chemical background is a plus. **Refer to Job Code D7-0047**.

Senior Preclinical Pharmacokineticist

In collaboration with Discovery Teams, the successful candidate will design and conduct *in vivo* PK studies to evaluate the performance of drug candidates. Qualified candidates will possess a PhD or its equivalent in Pharmacology, Pharmacokinetics, Pharmaceutics, Biochemistry, Chemistry or a related discipline with theoretical and practical experience in pharmacokinetic techniques/analysis. Experience in handling laboratory animals is essential; a working knowledge of biotransformation/drug metabolism and/or extrapolation is preferred. **Refer to Job Code D7-0152-3**.

Pharmacokineticists

Two pharmacokineticist positions are available. The selected preclinical pharmacokineticist will be responsible for implementing all phases of *in vivo* studies to evaluate the preclinical pharmacokinetic characteristics of compounds from drug discovery programs. The protein pharmacokineticist will assist in designing and carrying out studies to examine the pharmacokinetics, pharmacodynamics, and disposition of proteins/peptides in preclinical species and in humans. These individuals will also perform pharmacokinetic analyses. An MS or BS with 1-3 years' experience in the biological sciences, Pharmacology or Chemistry is required; experience in handling laboratory animals is preferred. A working knowledge of pharmacokinetics and data analysis is preferred. Experience with biochemical laboratory techniques is preferred for the protein pharmacokinetics position. **Refer to Job Code D7-0151**.

Computing and Quality Management

Associate Compliance Specialist

The selected candidate will assist in developing and managing quality management systems, area policies and SOPs including those for computer systems validation; provide expert guidance on GLP regulations; and create training programs. Additionally, this individual will participate on computer validation and process improvement teams. A BS in biological or chemical sciences with a minimum of 4 years' related experience in a regulated environment with emphasis on GLPs and a strong knowledge of FDA regulations and computer validation principles are required. **Refer to Job Code D7-0139**.

Senior Computing Specialist

The selected candidate will evaluate, develop, deploy and support advanced computer systems and applications for data collection, analysis and information management. Working directly with scientific staff and using advanced computing technology, the successful candidate will determine user requirements, prepare functional specifications, and participate in design and coding. In addition, this individual will lead computer validation teams and will support end-users. A BS or MS in Computer Science or in a biomedical science with extensive computer science course work with a minimum of 3 years' application development experience is required. Experience with Windows NT, SQL and relational databases is essential. Knowledge of Visual Basic, Web technologies, and LIMS is preferred, as is prior experience with computer validation. **Refer to Job Code D7-0160**.

Biotransformation

Assistant Director, In Vitro Biotransformation

Capable of representing DMPK, this team leader will provide expertise on *in vitro* approaches to drug metabolism, the enzymology of drug metabolism, drug-drug interactions, and *in vitro/in vivo* extrapolations. The successful candidate will interpret data and advise discovery and development teams. To qualify, candidates must possess a PhD in Biochemistry, Pharmacology, Toxicology, or a related area and at least 5 years' applicable research experience. **Refer to Job Code D7-0159**.

In Vitro Biotransformation Scientist

The candidate will be responsible for the design and implementation of all phases of studies involving *in vitro* test systems. The selected candidate will quantitatively analyze drugs and metabolites in biological media using HPLC and related detection techniques. A BS/MS in Chemistry or a biological science or up to 5 years' related work experience is required. An excellent understanding of biochemical techniques used in *in vitro* drug metabolism studies is essential; experience with radiochemicals and the handling/dosing of laboratory animals is a plus. **Refer to Job Code D7-0154-5**.

Contract Research Organization (CRO) Liaison/ Regulatory Document Preparation

The candidate will serve as liaison with CROs for preclinical ADME studies that support the discovery and development of new chemical entities. The candidate will ensure appropriate study design; monitor CROs; review CRO protocols and reports. The candidate will also contribute to the preparation of regulatory summary documents including those required for NDA/MAA submissions. Acting as a senior DMPK representative on preclinical submission teams, and as a representative on DMPK internal teams, the candidate will interact extensively with Project Representatives from a wide range of Development functions. The qualified candidate will have a PhD and at least 5 years' postdoctoral experience conducting knowledge of other aspects of drug development are essential. Experience writing regulatory documents is preferred. **Refer to Job Code D7-0140**.

Drug Analysis Senior Mass Spectrometrist

The selected candidate will develop and validate analytical methods and conduct analyses of drug and metabolites in biological samples from clinical/preclinical studies. In addition, this individual will assist in strategic planning; work scheduling; and will contribute to the design of PK studies of compounds in discovery. The successful candidate must have a PhD in Organic Chemistry, Analytical Chemistry, Medicinal Chemistry or Biochemistry. Experience operating/maintaining tandem mass spectrometers is essential, as is hands-on experience with bioanalytical methods development. Knowledge of the biotransformation pathways of pharmaceuticals is a must. **Refer to Job Code D7-0136**.

Located in a state-of-the-art research facility in suburban Philadelphia, SmithKline Beecham offers a competitive compensation/benefits/relocation package as well as a stimulating work environment in which to grow and excel. For confidential consideration, please forward a resume and salary requirements to: SmithKline Beecham Pharmaceuticals, Job Code _____, P.O. Box 2645, Bala Cynwyd, PA 19004. *Indicating Job Code is essential.* For more information on SmithKline Beecham, visit our Web site at http://www.sb.com. We are an Equal Opportunity Employer, M/F/D/V.



multidisciplinary approach, including genetics techniques, to understand how genes function singly and together. It also calls for the scientist well versed in molecular and cell biology, with some chemistry overlap. "As for specific skills," Smeekens says, "you will need excellent computer skills as well as skills in developing and running the assays we'll use in our high-throughput analysis effort."

Since genomics and informatics are crossover sciences, their rise has brought in tow a new class of cross-degree scientist. Smeekens himself came to genomics from a multidisciplinary path: solid research expertise in one field (in his case, a PhD in chemistry from Wayne State University) and a divergent postdoc (molecular and cell biology work at the University of Chicago), picking up computer skills on the way.

What about those computer skills? "We need people thinking about what you do with all this information," Smeekens says. "We're looking for those who can use programs and definitely those who can generate them." By the same token, "almost half" of Arris's work force is made up of chemists working in medicinal and combinatorial chemistry, as well as high-throughput screening. "Again," he says, "people seeking jobs need to be aware that biology and chemistry are becoming ever more interconnected."

Job-seekers need more than excellent science. Communications and team skills are essential as well. "The days are past when it's one person working at the bench," Smeekens says. With the increased emphasis on computers, robots, and huge waves of information, science has become a group effort in academe and industry alike. As for undergraduate scientists, "the broader your experience, the better-but you should also develop a set of specific skills that will allow you to go to work tomorrow." Do divergent science in your graduate degrees and postdocs. Cultivate flexibility. As Smeekens says, "We look to hire good scientists who can adapt."

DEFINING THE LANDSCAPE: POSTGENOMICS AT GEORGE MASON UNIVERSITY FAIRFAX, VA—George S. Michaels is an associate professor of compu-

tational biology in the



George S. Michaels

Institute for Computational Sciences and Informatics (CSI) at George Mason University, where he is currently head of the PhD program. Established in 1993, CSI is one of the first PhD programs in bioinformatics and computational biology in the nation. Below, Michaels discusses the current state of computational biology and informatics.

We take a broad view of bioinformatics. Besides our specialty courses, we have a basic three-course sequence in which topics range from biophysical chemistry to global ecology. The point is that the same methodologies, the same approaches, are often applied regardless of what level you're working on. Multidimensional analysis methods can be applied whether you're looking at thousands of gene expressions or sensor data collected from thousands of points around the globe. The point is to learn

The Genesis Of Genomic Toxicology: A Scientific Focus For Cell And Molecular Toxicology At Smithkline Beecham Pharmaceuticals, UK

THE FRYTHE, WELWYN, HERTFORD-SHIRE, UK—SmithKline Beecham Pharmaceuticals (SB) has pioneered the use of genomics and genetics in drug discovery, and the recent recruitment of Peter Goodfellow to lead research in biopharmaceuticals at SB exemplifies the company's commitment to this area. The expanding genetics program at SB is providing new opportunities for motivated scientists.

Ian Mitchell, director of genomic toxicology, says, "Describing toxicology at the phenotypic level and elucidation of mechthese methods and to gain confidence in the area in which you'll use them.

The tools of even five years in the future are being dreamed of only now. My current work concentrates on developing functional genome analysis methods and large-scale gene expression mapping. Many cluster analysis programs work well when you're dealing with a few hundred genes—but scale-up to thousands or tens of thousands of genes will be a problem, so we'll need algorithms to make those problems manageable. Then the scientific visualization of these data areas is still in its early phases.

It's hard to imagine that anyone going into a modern laboratory will be without a base set of computer skills, not only to do data analysis, but also to develop high-level concepts.

George Michaels, PhD Institute for Computational Sciences and Informatics George Mason University 103 Science and Technology-I Mail Stop 5C3 Fairfax, Va 22030-4444 (703) 993-1998 E-mail: gmichael@gmu.edu

anisms at the biochemical and molecular level allow us to assign the relative importance of toxicology findings in our effort to determine the safety of new drugs entering human clinical trials." Genomic toxicology will be an increasingly important aspect of drug development in the future.

SB intends to apply molecular biology techniques, in all their forms, to the safety assessment of therapeutic drugs. Peter J. Bugelski, director of cell and molecular toxicology for SB, says, "The era of ELISAs, Western blotting, PCR, genotyping, and all of their subdisciplines has come to toxicology."

Mitchell says, "There are jobs across the entire spectrum, from unit director to

Exciting opportunities for Molecular Scientists...



SmithKline Beecham is one of the world's leading pharmaceutical companies with a strong commitment to research and development which is supported by a £500 million budget this year. Our extensive product portfolio is complemented with an exciting development pipeline. Due to the creation of a new pre-clinical function, the Cellular & Molecular Toxicology Unit, we are able to offer many exciting opportunities in molecular biology, at a variety of levels.

Associate Director, Molecular Toxicology

Ref. 5205A

As an expert in the area of molecular mechanisms of toxicity, your role will be to lead the group by directing research, contributing ideas, and providing technical expertise to develop in-vitro methods for detecting and investigating toxicities of drug candidates. You will have a PhD in a relevant discipline, with 6-10 years experience.

Senior Scientists

- You will bring your gene expression expertise to experimental work, establishing a genomic basis for toxicological mechanisms. You will be PhD qualified and have 2-3 years experience in industry/academia. Ref: 5205 B
- Using state-of-the-art technologies to develop novel techniques you will assess carcinogenesis risk to assist with selection of compounds early-on during the drug development process. With a PhD in a relevant discipline you will also have 3-5 years experience. Ref: 5205C
- Your role will be to develop High Throughput, low compound requirement Screens (HTS) for drug development using molecular biological techniques. You will be PhD qualified with 2-3 years relevant experience, and have hands-on experience with the latest molecular genetic or protein biochemical techniques. Ref: 5205D

Bioinformatics Scientist

Ref. 5205E

This role involves evaluation and sourcing of existing bioinformatics databases, collecting and interpreting molecular data from internal scientists for database entry and computerised structure activity investigations. You will develop state-of-the-art methods and approaches in bioinformatics and imaging. Candidates will have a relevant MSc/PhD and 1-5 years experience.

High Throughput Screening -Scientist

Ref. 5205F

Your remit is to resolve day to day issues within the development and application of High Throughput Screens, independently preparing prototype methods for detecting toxic responses at the molecular level. You will have a BSc/MSc in molecular biology or protein biochemistry and 3-5 years experience.

Genomics & Molecular Pathology Technologists

Ref. 5205G

Cell biologist graduates with 1-3 years experience, you will conduct invivo and ex-vivo studies to prepare reagents and material for high throughput screens, or to profile toxicity at a molecular/genomic level.

If you are interested in developing your career within a dynamic environment where your contribution will make a difference please send or fax your C.V. quoting the relevant Reference to Sharon Carter-Jones, Senior Consultant, *Salisbury Consulting Group, Salisbury House, Beaconsfield Close, Hatfield, Herts, AL10 8EY, Fax: 01707 222002.*

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SD SmithKline Beecham Pharmaceuticals Research & Development

New frontiers for Healthcare

TODAY'S OPPORTUNITIES LEAD TO TOMORROW'S BREAKTHROUGHS

Pharmacopeia is a dynamic biopharmaceutical-drug discovery company that applies innovative technologies to chemical synthesis of libraries of small molecules and to high throughput screening. Our goal is to identify small molecules from these processes and to characterize them in the drug optimization process.

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SYNTHETIC ORGANIC/MEDICINAL CHEMISTS

We are seeking talented Ph.D. and MS/BS synthetic, organic and medicinal chemists at all experience levels. The successful candidate will have a strong background in organic synthesis, be interested in combinatorial chemistry and have a deep commitment to research.

ANALYTICAL CHEMISTRY TEAM LEADER

A unique opportunity exists to supervise a team of BS and MS level analytical chemists for combinatorial library elution process development and quality control. Training or experience in organic chemistry/synthesis in addition to experience in chromatography, mass spectrometry, or other analytical techniques is essential. We are looking for an individual with a commitment to quality processes.

ANALYTICAL CHEMISTS

We have opportunities for Ph.D. Analytical Chemists. You will be responsible for developing GC and HPLC methods to sensitively and quantitatively detect synthetic compounds eluted from Pharmacopeia's proprietary chemical libraries. You will incorporate GC and HPLC methods in a systematic set of procedures that will become key steps in an overall process of sample preparation, biological screening and chemical identification.

SYSTEMS ENGINEER

BS, MSEE, Ph.D., 2 plus years of experience, hands on development and prototyping of analog and digital circuitry, wiring and troubleshooting. Working knowledge of programming control systems in Visual Basic. (Visual C or C++ are optional).

Located in Princeton, NJ, an area known for its excellent educational and cultural environment, we offer a highly competitive salary and benefits package including a stock option plan. Qualified individuals should send a cover letter and resume to:

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For options as boundless as your potential, contact: Wyeth-Ayerst Research, Human Resources Dept., Position #OPSCI-0497, P.O. Box 7886, Philadelphia, PA 19101-7886. FAX: (fine mode) directly into our centralized Research resume database at (610) 989-4854. e-mail: jobs@RAMAIL1.wyeth.com (ASCII format, no attachments, subject: resume).

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THE DECADE OF COMPUTATIONAL BIOLOGY AT GENENTECH Dan Sulzbach

director of scientific computing Genentech

Dan Sulzbach's department supports the information technology needs of the research and development activities at Genentech, including everything from initial discovery up to clinical trials. Below he discusses the employment scene in scientific computing.

My staff is a mixture of people. Some have degrees in biology plus experience with computer technology, and others came to the life sciences or chemistry after a computer science degree. I don't have a preference because I have good people who have done both.

Biotechnology, computer science, and communication technology are all having parallel revolutions that are starting to merge. Biotechnology, always a data-intensive arena, has now become even more so in the wake of the Human Genome Project and combinatorial chemistry. As for information technology, there has been a huge revolution in ways of managing all this new information: developments in data management systems, disk storage, and the sheer power of the hardware. Tremendous advances in network bandwidth have made it easier to access data and move them around. All this is merging in a way that will make the 1990s the decade of computational biology.

As for job candidates in my department, I look for certain baseline skills. Database experience is definitely one of them, and programming experience is required. Of increasing importance, if candidates wish to be applications developers, is familiarity with the Web technologies. It's very useful to know how to develop interfaces to access services via the Web, such as with CGI and Java. People still in graduate school should seriously consider picking up a few classes in database or Web technology. If new scientists don't have at least some of these skills in their portfolios when they go job-shopping, they'll have a hard time being competitive. If you're coming from a biology or chemistry background, get some experience in computers, including databases and programming.

If you're coming from a computer science background, get some experience in biology or chemistry. We'll see more and more interdisciplinarity until we no longer even use the word. Those who become chemists or biologists will automatically also become highly skilled computer scientists and information managers. They'll have to.

technical scientist." As Bugelski puts it, "We're really looking for knowledge of molecular biology and its potential applications in toxicology. The basic tools of

CAREER

Looking for career opportunities? Check out SCIENCE Professional Network on the Internet. There you'll find all the job advertisements found in the print version of SCIENCE-the largest number of employment advertisements of any science journal in print or online. Besides career opportunity advertisements, SCIENCE Professional Network offers information on career fairs, meetings and announcements, and other career resources. To access the advertisements, just go to SCIENCE Online (http://www.sciencemag.org), click on SCIENCE Professional Network, and click on Search Job Ads.

standard cell culture and molecular biology—PCR, reverse transcriptional analysis, and cloning—are all integrated into our understanding of the genome to help assess toxicological findings and develop risk assessments."

For these reasons, Mitchell and Bugelski lay heavy stress on the need for a multiple discipline approach, personal flexibility, and good communication skills. They take seriously their responsibility for the safety of patients and volunteers who participate in clinical trials. "We and our physician colleagues share the responsibility for patient safety, which is reflected by our intimate working relationships," Mitchell says, "and we shall be looking for that same dedication to excellence in those we recruit to SB." Mitchell advises job-seekers to aim for high standards and an equally good degree in an appropriate area of science. He and Bugelski agree that a diversity of skills is essential for a successful career in toxicology, ranging from high-level

technical skills to a broad-based understanding of biology and medicine.

"We look for people who have demonstrated success in a broad range of disciplines," Bugelski says. "Many of us did one degree as undergraduates, went into a different field for our PhDs, changed yet again as postdocs, and again in our professional careers. My first degree was in physics, and I am now director of cell and molecular toxicology at SB." Such midcourse changes may be the model of the industrial scientific career of the future.

FOCUS ON TOXICOLOGY:

Join us for a discussion group on Careers in Toxicology at the Science Professional Network Web page. Our guest expert for the month of April is John G. Keller, PhD, nationally noted general toxicologist and carcinogenesis expert. Our URL is http://www.sciencemag.org

Genome-based Pharmaceutical Research

SmithKline Beecham is a leader in genome-based pharmaceutical research and development. One of our major research tools is a large database of human expressed gene sequences which is used by all of our research scientists. A major genetics initiative has been established within the laboratories of Dr Peter Goodfellow to maximise the use of this database and two of the key components are Human Genetics and Gene Informatics. As well as collaborating in this initiative, Bioinformatics develops and supports advanced and innovative software and databases for use by SB scientists.

HUMAN GENETICS

The Department of Human Genetics, under the direction of Dr Andrew Rutt, is using genetics as a tool for improving and accelerating drug discovery and drug development. Members of the department will be expected to devise optimal strategies for associating genes with phenotypes. The department works closely with Dr Nigel Spurr and the Genetic Technologies Group, which provides the necessary platform technologies, including high-throughput genotyping, mapping and sequencing.

Clinician-Scientists

Candidates should have trained in adult internal medicine and will have demonstrated research ability in the genetics of human disease. They will be expected to be familiar with the current approaches to the analysis of complex traits. A medical degree plus MRCP or equivalent is essential. A PhD/MD is highly desirable. **Ref: BIP09g1.**

Statistical & Population Geneticists

Applicants will have trained in statistics and genetics to post-doctoral level and will be skilled in the use of statistical and population methods for the analysis of complex traits. Candidates must have a proven track record in one of two areas:

- I) population genetics, structure and evolution.
- II) development of methods to associate genes with complex phenotypes. Ref: BIP10g1.

GENE INFORMATICS

In order to explore novel methods of utilising the sequence database, we have established a new 'Gene Informatics' group. This group is based in the UK within the laboratories of Dr Peter Goodfellow and is focused on searching the database for new genes and genetic markers - as such this group complements both our existing Bioinformatics and Pharmaceutical Discovery initiatives. We provide advanced computing facilities, a stimulating environment for research and a unique opportunity to study human genetics.

Qualifications: PhD, or equivalent experience, in the areas of genetics, molecular biology, comparative biology, biochemistry, pharmacology or protein structure analysis/prediction together with an ability to work and communicate effectively in a multidisciplinary environment. Demonstrated productivity in the use of database analysis to solve biological problems would be advantageous. **Ref: BIP04g2.**

BIOINFORMATICS

SmithKline Beecham Pharmaceuticals has one of the largest Bioinformatics groups in the industry. The department collaborates closely with laboratory scientists and with the new 'Gene Informatics' group in the application and development of advanced Bioinformatics tools to accelerate the identification of novel therapeutic and diagnostic reagents from our unique resource of genome sequence data.

We are looking for experienced bioinformaticians to join the Bioinformatics department in the US and the UK as either software engineers, data analysts supporting drug discovery research projects, or as independent research scientists. As a member of SB Bioinformatics you will be part of a transnational team of scientists and software engineers with expertise in databases, search algorithms, and systems engineering. You will also have access to an exceptional distributed computing environment and cutting-edge software tools.

Applicants should have several years' postgraduate experience of computational analysis and interpretation of biological sequences and ideally possess an MSc or PhD. Candidates should be able to demonstrate good presentational and communication skills and work effectively in a collaborative research environment. For applicants wishing to be considered for our Bioinformatics research programme, a proven track record of post-doctoral research in computational molecular biology is required. **Ref: SCSg4.**

In the UK, the above vacancies will be based at our new science complex at New Frontiers Science Park, Harlow. This leading-edge facility represents a massive investment in the future of drug discovery and, in concentrating all our UK pharmaceutical discovery research at a single site, offers a superb working environment. In the US, our state-of-the-art facilities are located at Upper Merion near Philadelphia. As you would expect from a leading global healthcare company, we offer a dynamic working environment and a very competitive compensations/benefits package.

If you believe that you could contribute to these exciting research areas, please send your full career details, **quoting the appropriate reference** on both the letter and envelope, to the UK Recruitment Manager, SmithKline Beecham Pharmaceuticals, PO Box 2489, London W1 2YL, England. Closing date: 2 May 1997. For more information on SmithKline Beecham, visit our web site at http://www.sb.com

It is part of our fundamental philosophy at SmithKline Beecham that we recruit, train, develop, reward and promote persons in all job areas solely on the basis of qualifications, skills, abilities and aptitudes. Decisions based on race, colour, age, religion, sex, sexual orientation, disability, ethnicity or national origin are unacceptable to the Company.



SB SmithKline Beecham Pharmaceuticals

New Frontiers for Healthcare

Research & Development

Human Genome Sciences

Human Genome Sciences is identifying and developing novel therapeutic proteins and drug targets to meet unmet medical needs.

Cell Biologists and Pharmacologists

Positions are available for Ph.D./M.D. applicants with demonstrated expertise in cell biology or pharmacology to conduct studies in small animals with novel therapeutic proteins. Although expertise in a particular field is desirable, a willingness to be creative in animal model development is also essential. We require at least 5 years laboratory experience in one or more of the following fields: Endothelial/Epithelial biology or hematopoiesis and/or monoclonal antibody technology (fusion, expansion, purification, ELISAs). **Job Code: GG4/18**

Bioinformatics Scientists and Software Engineers

Our world-class Bioinformatics Group has several opportunities available for Bioinformatics Scientists and Software Engineers. The ideal candidates will possess a Ph.D. in either biological or computer sciences with demonstrated experience in collecting, managing and integrating data from high throughput screening assays and related laboratory instrumentation processes. Candidates must be comfortable in both the computer and biological spheres and have proven experience in database design and software development using *C/C++*, Perl, or Java. GMP laboratory environments/instrumentation and documentation experience is highly desirable. *Job Code: MF4/18*

HGS

Therapeutic Protein Development

The Protein Therapeutics Group is engaged in novel gene discovery primarily utilizing the HGS database. Presently, the group is focused on: development and implementation of high throughput strategies for identification and cloning of novel gene candidates into mammalian expression systems; development of high throughput assays in the areas of hematopoiesis, wound healing and immunology to assess biological activity of candidate genes; and development of new methods and tools to establish new approaches for gene candidate selection for pre-clinical research. We are seeking Scientists at the Ph.D./M.D. level and Research Associates at the B.S./M.S. level to meet these challenges. Job Code: SR4/18

Pharmaceutical Formulation Scientists

HGS Scientists engaged in pharmaceutical formulation develop stability testing protocols and evaluate testing results, develop and recommend bulk and finished product specifications, and prepare the technical portion for regulatory requirements for IND, PLA and NDA support. These positions require a Ph.D. in pharmacology, biochemistry, or related discipline; 5-7 years industrial experience, including a proven track record of success in the development of protein peptide dosage forms liquid and semi-solids; extensive experience with preformulations and formulations; and knowledge of analytical methods of protein chemistry, GLPs and cGMPs. **Job Code: RG4/18**

HGS encourages the pursuit of academic excellence and offers a competitive benefits package including educational reimbursement, subsidized health club membership, 401(k) plan with employer match. Look for us on the Internet at http://www.hgsi.com or send/fax your resume to Human Resources Department, Human Genome Sciences, Job Code #__, 9410 Key West Avenue, Rockville, MD 20850. FAX: (301) 309-1845.



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PATHWAYS AND SINGLE STEPS: SCIENCE CAREERS AT BRISTOL-MYERS SQUIBB

PRINCETON, NJ—At the Bristol-Myers Squibb (BMS) Pharmaceutical Research Institute, four scientists are engaged in a roundtable discussion about career issues in the pharmaceutical industry. These scientists represent a wide range of different departments:



Jack M. DeForrest director of contract and licensing management external science and technology



Eric L. Hagestad director project planning and management pharmaceutical group



Linus N. Igwemezie associate director chemistry, manufacturing and control worldwide regulatory affairs



Barbara Mohl associate director human resources

DeForrest: My department manages our academic alliances, among other things. Like most pharmaceutical and biotech companies, BMS has university alliances involving a principal scientist on this side and a principal investigator in the alliance institution. We have important alliances in cardiovascular medicine, CNS, cancer, and immunology, and we expect to expand into other areas.

Igwemezie: Regulatory affairs is a large department that handles all drug registration worldwide. Primarily we deal with regulatory agencies—HPB in Canada, EMEA in Europe, the FDA here, and others around the world.

Hagestad: Our department tracks the progress of chemical

compounds in a number of different projects. Our staff comprises PhDs in a variety of areas: pharmacology, oncology, cardiovascular medicine, physiology.

DeForrest: I want to stress the absolute indispensability of negotiating skills and written and oral communication skills. There are a lot of highly educated people who can't communicate. And you have to be effective communicators/negotiators, especially in my area. You need not only to communicate well, but also to be comfortable with communicating at many different levels.

Igwemezie: Communication and negotiating skills are also invaluable in regulatory affairs. Negotiation with the regulatory authorities is what we do. If you can communicate your position and are able to negotiate well, you sometimes can prevail on difficult issues.

DeForrest: Good communicators/negotiators think on their feet. They thoroughly understand the company's position and can still be sympathetic to the other party's needs. That is, they're good at finding a way through difficult problems.

Hagestad: Not all of your work, after all, is going to be with trained scientists. You have to be able to explain to lay people exactly what you're doing.

Igwemezie: Organizational skills are also very important which sometimes translates into being able to work well under pressure. On the average, people in my group will handle from six to ten projects at once. You have to be able to organize and prioritize. One thing you can't afford, for example, is to miss a deadline for an important submission, such as an IND or NDA.

DeForrest: Our scientific training allows us to communicate with scientists and understand their thought processes. We have to work with people trained in oncology, CNS, immunology. We have to know how to pick up little pearls, i.e., what's important. The more you understand about the project and your area, the greater your credibility.

Igwemezie: My science training is crucial. We represent departments as diverse as packaging engineering, process chemistry, and analytical and pharmaceutical research and development. Sometimes they cannot accompany you to meetings with the various regulatory agencies, so you have to rely on your understanding of science to be able to deal with the issues.

Hagestad: Mentoring really helps there. Many people in our departments begin as junior members of a team and watch how their more experienced counterparts do their jobs.

Mohl: My current mentor is Lynne Cannon, vice president of human resources for the BMS Pharmaceutical Research Institute and the Lawrenceville site. Her approach enables staff members to develop their skills, especially if they initiate and are self-starters. She offers framework and the strategic view on everything we do. In addition, her style is to be a real-

Bristol-Myers Squibb



Research Scientists M.S./B.S. COMOLOJOJOUNO **Retabolic Diseases & Diabetes**

obesity/Diabetes & Hyperlipidemia

knowledge of biochemical techniques & bioanalytical methodologies, along with analytical & organizational skills. Working knowledge of Excel & ISIS software and experience with multiple data system platforms (Mac & PC) and in vivo experience are preferred. Selected candidates will design Research will involve the identification & evaluation of molecular targets and the study of their expression, regulation & mechanisms of action. Candidates should have 3-6 years experience and a strong working

systems and be responsible for management of data acquisition & analysis, as well as database maintenance. (Reply to Dept. BM-TH) & perform biological assays utilizing both manual & high throughput robotic

target evaluation and functional assay development. Experience in differential display mRNA analysis and immunoassays is preferred. (Reply to Dept BM-TK) Candidates should have 3-6 years experience and demonstrated experience in basic molecular biology including the analysis of gene expression, plasmid con-struction, PCR amplification, cell culture, and recombinant protein expression for

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data acquisition and analysis, as well as database maintenance and report preparation. (Reply to Dept. BM-AS) terred. Selected candidate will be responsible for management of tion, along with analytical and organizational skills, are essential. Experience with multiple data system platforms (Mac & PC) is preproblem solving skills and experience in data acquisition and reducmetabolic diseases, especially those for lipid metabolism. Excellent and the ability to work independently to develop in vivo models of mechanisms of action. Candidates should have 3-6 years experience Research will involve the design and performance of biological experi-ments to evaluate lipid-lowering agents and explore their molecular

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Collaborate in the design, execution, and evaluation of

Dept. BM-RP) disciplines. (Reply to with scientists in other the ability to collaborate abilities are necessary, along with tion is useful. Good communication -stitnsup ANAm bns sysses gnibnid-bnsgil fluorescence and luminescence technologies, background including immunoassay development, isolate and characterize proteins and develop functional assays for drug discovery. Analytical biochemistry in bacteria and mammalian cells is desired, as well as the ability to cell biology and molecular biology. Knowledge of expression of proteins techniques which include experience in enzyme and protein biochemistry, experience and a broad background of skills in major biochemistry lab experimental techniques. Candidates should have 3-6 years Molecular Pharmacology studies using a variety of

appropriate department, to: torward your resume, indicating New Jersey headquarters. Please These positions are in our Princeton,

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FASEB Career Resources reaches another milestone on the "super highway" with its new and improved interactive *CAREERS OnLine DataNet* services on the internet. The wwwsupported applications are easily accessible to those seeking access to biomedical career development information and career opportunities. *CAREERS OnLine* is available to both employers and candidates with just a "click" of a mouse button ... 24 hours a day!

Next time you are "cruising the career resources information highway", make your next stop your best stop *FASEB CAREERS OnLine*! We are located worldwide on the internet at <u>http://www.faseb.org/careers</u> via a web browser near you!



Biogen has established a unique record of success as the world's oldest independent biotechnology company. Pioneering research by our scientists has led to the discovery and development of a number of important new medical therapies. In 1996, we introduced our first proprietary product, AVONEX® (Interferon beta-1a), a treatment for relapsing forms of multiple sclerosis, and achieved our goal of becoming a fully operational biopharmaceutical company. Today, we are seeking the following committed professionals to join our expanding global team.

DEFINING SUCCESS

SCIENTISTS -DRGANIC CHEMISTRY

We are looking for energetic chemists with solid backgrounds in synthetic organic chemistry.

Responsibilities include the synthesis, isolation, and spectroscopic characterization of new small molecule drug candidates. Experience in the application of solid-phase synthesis to the construction and analysis of small molecule combinatorial libraries is a plus. These positions require a BS or MS in Organic Chemistry and at least one year of related experience.

SCIENTIST -ANALYTICAL PROTEIN CHEMISTRY

We are seeking a highly motivated scientist to join our Analytical Protein Chemistry group. The successful candidate will be responsible for performing experimental characterization and structural analysis of proteins, and for the coordination of these activities with other protein chemistry groups within Biogen. Demonstrated expertise in protein characterization, including peptide mapping, disulfide structure elucidation, and glycoform analysis is required; familiarity with other protein characterization techniques such as protein sequencing, MS, CD, AAA, CE, etc. is desirable. The individual must also have excellent verbal and written communication skills, collaborative and team experience and the high level of energy and enthusiasm required to play a critical role in our multidisciplinary research discovery and development efforts. A Ph.D. in Biochemistry, Chemistry or Biology with at least 4 years' industrial experience or equivalent is required.

ASSOCIATE SCIENTIST -MOLECULAR GENETICS

We are seeking an individual who has demonstrated experience in expression vector construction, PCR, Southern and Western blotting, and tissue culture, including propagation and transfection. This person will be responsible for vector construction, transient and stable transfection of mammalian cells and analysis of protein expression. The successful candidate will be a highly motivated individual who is dedicated to his/her profession, has excellent work ethics and possesses an appropriate B.S. or M.S. degree with 3-5 years of experience in molecular biology and tissue culture.

ASSOCIATE SCIENTIST -PHARMACOLOGY

Take a role in the expansion of our Pharmacology department by evaluating drug candidates in rats and mice under cGLP guidelines. Other responsibilities will include collection and recording of data, writing reports which summarize and interpret results, monitoring of circulation and other vital signs, and performing some aseptic surgery. B.S. or M.S. in Biology, Pharmacology or Physiology with 2-5 years' experience in vivo animal studies required.

SCIENTIST -RESEARCH & DEVELOPMENT

We are seeking an innovative scientist to investigate activity and dissect mechanism of action of novel therapeutic proteins. This individual will have a strong background in cell biology, growth factor pathways and the study of soluble proteins and their receptors. Knowledge and experience in different biological systems of cell development and differentiation, and the ability to apply this knowledge to settings of inflammation, tissue injury and repair is required. Use of both in vitro mammalian culture systems and in vivo systems for analysis of expression and function, including application of in situ hybridization and immunohistochemical techniques is highly desirable. Ph.D. with 3 years' postdoctoral experience required. Use of molecular biology skills and the ability to address biological questions preferred. The successful candidate will be involved in hiring and directing the activities of an Associate Scientist.

ASSOCIATE SCIENTIST -PROTEIN ENGINEERING

In this position you will perform experiments aimed at elucidating the mechanistic properties of receptors, enzymes and other recombinant human proteins. The overall approach will be problem oriented, utilizing a broad range of experimental methods to characterize the properties of proteins in solution and in cell-based experimental systems. The successful candidate will present evidence of the ability to perform quantitative measurement in a precise and reproducible manner, will be familiar with standard protein-handling techniques, and will be experienced at culturing and working with mammalian cells under minimal supervision. The individual will be expected to participate in the design of experiments and analysis and communication of the results. Experience with the analysis of binding data or other quantitative measurements is a plus. MS degree in biochemistry, cell biology or related discipline and 2 years of relevant experience, or B.S. degree plus four years of experience, is required.

ASSOCIATE SCIENTIST

The successful candidate will participate in molecular biology and cell biology in vitro studies examining the role of growth factors in the development of different tissues, effect on cell survival/viability and in animal disease models. Strong molecular biology skills, including cloning, southern/ northern blots, PCR sequencing and tissue culture are required. Experience with immunohistochemistry, RNA in situs and/or immunoprecipitations experiments a plus. Scientific background in growth factors, signal transduction and/or developmental biology preferred. Requires a BS or MS degree in Biological Sciences and/or Chemistry with a minimum of 2 years' professional experience.

Biogen offers what few companies in our industry can Professional Challenge, Stability, Growth, and one of the strongest financial profiles in the industry. In addition, our compensation and benefits package, including equity participation, is one of the best in the industry, and is designed to attract and retain the finest talent available. Please forward your resume to: Biogen, Inc., Dept. RC, 14 Cambridge Center, Cambridge, MA 02142 Fax: (617) 679-2546 E-mail: resumes@biogen.com Biogen is an Equal Opportunity Employer.



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time mentor—such as when she has us observe her leading a major meeting.

Hagestad: One question we haven't covered is "hot" fields. I'm hearing a lot lately about large-molecule biotechnology. Until very recently, biotech had not made much of an impact in cardiovascular medicine, but now we're looking at some very exciting innovation there.

Mohl: In terms of hiring, I'd list genomics, robotics, and combinatorial chemistry. One of the most sought-after degrees is chemistry. The hiring search for synthetic organic chemists is very competitive right now. People in bioinformatics are a similar case: it's a new field, a huge demand, but there are as yet very few qualified people and not too many programs.

Hagestad: If you're interested in project management, get involved with a scientific project. Work on a team. Learn how drugs are developed. And get some experience in the industry. The trick is to develop that broad multidisciplinary overview, that teamwork mentality.

DeForrest: Go to the library and start a literature search. You'll find books on drug development—and there you'll learn about the functions of regulatory affairs, project management, and licensing, to mention a few departments. All of these vital components require science-educated people.

Igwemezie: Do some networking so people get to know you. The key is to try to understand the industry and the job trends.

Mohl: Speaking of networking, use the Internet. Almost all the major pharmaceutical companies and biotech companies have Web sites with useful information on their location, structure, products, and hiring needs. When pharmaceutical companies send recruiters to your college or university, make the contacts. And BMS, like many companies, offers summer internships, opportunities for students who are in the process of obtaining their degrees to get experience with hands-on training in the labs. We end up hiring some of our interns because we've gotten to know them and see their potential.

DeForrest: Even if a full-time position isn't available, you've gotten a little exposure to the way a major pharmaceutical company functions. And your résumé will show that you've worked for us.

Igwemezie: It's really surprising the directions a career can take. You might enter BMS at a lower-level bench job—and work until retirement, enjoying two or more separate careers in different parts of the company.

Hagestad: The traditional picture of the scientific career working in one department your whole professional life, doing one thing—simply isn't accurate any more, if it ever was.

Mohl: Think of a career as a pathway rather than a single step.



Richard Gregg vice president department of metabolic diseases

I'm the head of the drug discovery effort in the area of metabolic diseases. That covers lipid-lowering therapies, diabetes, and obesity. In our department, PhDs as well as BS- and MS-level scientists interact with people in all parts of the company. I've met this morning with franchise management, licensing, scientists from our cardiovascular department, immunology, and genomics, and I'm meeting with chemists this afternoon. It's a part of the job that I truly enjoy.

When asked what the most exciting skills are at the moment, I'd have two answers. There are the most visible fields, the "sexy sciences" of the moment, and there are the less sexy yet still essential areas in which we can't find enough good people. Clearly the most visible of the sexy sciences are the new molecular and cellular techniques. Ironically, however, it's easier to hire somebody in those areas than it is to hire people with animal physiology experience.

While it's not clear exactly how the genomics and informatics explosion will settle, it is clearly already having an effect and will continue to. Eventually, for example, we may be able to aim drugs at certain genotypes. That will improve efficacy and safety. We'll be able to use these facts in marketing a drug, because they'll give us new ways to differentiate our drug from other companies' drugs. You can imagine how this will affect regulation, registration and licensing, as well as claims for toxicity and efficacy.

Anyone seeking a job in this field should have a broad, firm understanding of biology. You need to be a capital-B biologist first and a cell, molecular, or plant biologist second. The biologist is uniquely trained to integrate different pieces of information and understand how they work together. You need that no matter what direction you take.

The other thing is career flexibility. The biopharmaceutical industry is changing rapidly. Don't expect to come in and work on your pet project for the next ten years because you're not going to. Projects typically last three to five years, after which you may be asked to take a new direction. Your talents (and patience) will be stretched to the limits. Pharmaceutical companies need to be on the front end of the changes—look for opportunities and be ready to exploit them. That wouldn't be bad advice for the job seeker, either.

DISCOVERY of

Established in 1993. SCRIPTGEN has become a leading molecular therapeutics company by developing unique drug discovery technologies that represent breakthrough advances in the race to develop effective therapies. Our proprietary, affinity-based screening system, ATLAS (Any Target Ligand Affinity Screen) allows novel protein targets to be screened in a high throughput mode, and our SCAN (Screen for Compounds with an Affinity for Nucleic Acid) and RNA transcripts technologies are facilitating the discovery of important drugs that regulate RNA. The success of these technologies, coupled with our advances in the therapeutic modulation of microbial gene transcription, has created expansion opportunities in our research organization. We are seeking the skills and expertise of highly motivated, team-oriented scientists who are ready to bring their innovative ideas to the brink of discovery.



- Develop cell-based and cell-free assays for discovery of antiviral and anticancer drugs. Requires 2-6 years of postdoctoral experience. Expertise with transfection, gene expression, drug toxicity, and viral replication assays is highly desired. Experience with the preparation and use of Xenopus oocyte and/or mammalian cell extracts, and with subcellular organelle fractionation is a plus. Job Code: AFF8

MS/BS Biochemists

Develop novel high-throughput assays for our drug discovery programs. Requires at least 2-5 years of laboratory experience in protein biochemical methods including protein purification, gel electrophoresis and functional assays. Experience with ligand binding interactions, high-throughput screens and immunoassays preferred. Job Code: AFF9

BS Biochemists

 Discover novel drugs using our proprietary affinity-based highthroughput screening technology. Requires an understanding of biochemical methods and principles as well as experience with basic biochemical techniques. Specific experience with immunoassays, gel electrophoresis, solution chemistry, and techniques of isolation and characterization of proteins a plus. These are contract positions with possibility for permanent employment. Job Code: AFF10

PhD Molecular Geneticist

~ Identify and characterize novel antifungal therapeutic targets in our antifungal drug discovery program. Requires a strong background in molecular genetics of yeasts or other fungi. Experience with pathogenic fungi (including, but not limited to, Candida spp. and Aspergillus spp.) strongly preferred. Familiarity with transcriptional regulation a plus. Job Code: FGL6

Postdoctoral Fellow, Fungal Genetics/Pathogenesis

 Identify and characterize factors required for the virulence of pathogenic fungi in animal model systems. Requires a PhD, MD, or MD/PhD in Microbiology, Genetics, Molecular Biology or a related field as well as experience with yeast molecular genetics. Experience with molecular genetics in Candida spp. or animal models of infectious disease is highly desirable. This is a two year fellowship position. Job Code: FGLP1



Biochemist/Protein Specialist

Manage a preparative scale protein purification facility. Requires a PhD with at least 2 years of post-doctoral experience in biochemistry and molecular biology or BS/MS with 5+ years of experience; experience with the purification of proteins using manual and automated chromatographic systems; experience with the construction of recombinant protein expression vectors; experience with enzyme assay and characterization methods; and the ability to work with multiple, diverse research teams in a collaborative environment. Experience growing and maintaining bacterial, yeast and mammalian cell cultures is highly desirable. Job Code: PP1

Director, Medicinal Chemistry

~ Implement, present and coordinate all aspects of our chemistry programs. Manage and direct in-house chemistry team. Coordinate chemistry and scale-up with outside collaborators, consultants and contractors. Assess new chemical leads and plan/execute chemistry development of all prioritized drug candidates. Requires a PhD in Organic Chemistry with 8-10 years of synthetic organic/medicinal chemistry (preferably in a drug discovery/development organization). A thorough understanding of contemporary synthetic chemistry and knowledge of newly developed reaction methods required, along with skills in heterocyclic chemistry, acyclic stereo control, combinational chemistry, SAR, rational drug design of small organic molecules (not peptides). Experience with the drug development process from lead identification through to Phase II or III, including patenting of lead compounds and technology is preferred. Job Code: MC1

SCRIPTGEN offers very competitive salaries and benefits, along with equity participation. Please reference Job Code when responding. Forward letters, references and resume to: Human Resources, SCRIPTGEN Pharmaceuticals, Inc., 200 Boston Avenue, Medford, MA 02155. Fax: 617-396-1028. An equal opportunity employer.



Ontogeny, Inc.

Ontogeny, a leader in the pioneering field of developmental biology, is seeking highly motivated team players to join an interactive group of researchers in a stimulating and challenging environment. Having recently completed a substantial round of additional financing, Ontogeny's focus is to expand discovery efforts and aggressively pursue its research and development projects. Our rapidly growing company makes use of bioinformatics and molecular, cellular and tissue biology to identify signals that induce cell differentiation and tissue development.

There are exciting career opportunities in the following areas:

Job Code:OPD

Job Code: OPC

ONTOSCREENTM RESEARCH (Developmental Biology-Based Discovery Research)

- Ph.D., Developmental Biologists:
- Minimum 3 years postdoctoral experience in vertebrate
- development system (e.g. mouse, chick, zebrafish)
- Expertise with in situ analysis, immunostaining Ability to identify molecules that play a role in developmental processes

Ph.D., Cell Biologists:

Postdoctoral experience using cell-based systems to study

- biological processes
- Experience with ES cells, primary cell lines
- Ability to develop and implement cellular assays for screening libraries Job Code: OPM

Ph.D., Molecular Biologists:

Postdoctoral experience in applying molecular techniques to the analysis of gene expression

Experience in library construction, amplification methods and nucleic acid analysis Job Code: OPA

Ph.D./D.V.M., Animal Biologists:

- Postdoctoral experience with transgenic animals and cell and genebased delivery systems
- Experience in analyzing effects of recombinant proteins on rodent tissue
- Background in developing in vivo assays for analyzing developmental role of gene products

Bioinformatics/Computational Biologists: Job Code: OABC

- B.S./M.S. biologist with expertise in analyzing protein and gene motifs
- Fluent in computer analysis of genetic information and use of biological databases
- Knowledge of computer image analysis
- Computer network management a plus Successful candidate will lead a growing and interactive bioinformatics group Associate Scientist, Cell Biologists:
- Job Code: OAC Five plus years experience in cell biology with expertise in genetic manipulation of mammalian cells
- Demonstrated experience with transfection, analyzing protein expression, cell line development, cell-based screening assays and ES cell biology

Associate Scientist, Molecular Biologists:

- Job Code: OAM Three plus years experience using state-of-the-art methods of nucleic acid analysis
- Proven competence in constructing and screening cDNA libraries
- Ability to analyze gene expression data
- Associate Scientist, Biochemists: Job Code: OAB Three plus years experience in protein purification and characterization

BONE/CARTILAGE RESEARCH Job Code: BPB

- Ph.D., Bone Biologists:
- Background in developmental biology of bone and cartilage; cartilage and bone induction and repair; osteoporosis
- Molecular biology experience, including vector construction, cDNA cloning, RT-PCR
- Knowledge of transgenic mouse and cell line generation
- Experience with histology and pathology of bone, in situ

hybridization, immunohistochemistry

- Associate Scientist, Cell Biologists: Job Code: BAC Minimum of 3 years experience in cell line generation and tissue culture assays
- Skill in immunohistochemistry and microdissection Job Code: BAM Associate Scientist, Molecular Biologists:
- Minimum of 3 years experience Working knowledge of RT-PCR, *in situ* hybridization and bacterial expression.

DIABETES RESEARCH

- Ph.D., Developmental Biologists: Job Code: DPD Expertise in vertebrate gut and/or endocrine development
- Research experience in gene expression analysis and a knowledge

Job Code: DPC

Job Code: LA

- of transcription factors
- Experience with lineage analysis a plus Ph.D., Cell Biologists:
- Extensive experience in intracellular signaling of β cells
- Knowledge of receptor biology/biochemistry Demonstrated experience in islet isolation and culture, and other gut endocrine cells Job Code: DAC

Associate Scientist, Cell Biologists:

- Extensive experience with cell culture and cell cloning techniques, including primary tissue work
- Ability to perform analyses such as Western blotting, and immunohistochemistry
- Knowledge of stem cell and molecular biology a plus Associate Scientist, Histotechnologists: Job Code: DAH
- Demonstrated experience with immunohistochemical and in situ hybridization techniques
- Familiarity with monoclonal and polyclonal antibody production
- Capable of high throughput screening work, and ability to embed,
- section, and process tissue Experience with FACS and/or HLA typing a plus
 - NEUROLOGICAL RESEARCH

Ph.D., Neurobiologists: Job Code · NPN

- Extensive experience in animal models of neurological disease (e.g. MCA occlusion, fimbria-fornix transection)
- Demonstrated competence with surgical and histological analysis required
- Ph.D., Molecular and Cellular Neurobiologists: Job Code: NPMC Experience with in vitro methods, (e.g. primary CNS cultures)
- Solid knowledge of neuroanatomy
- Strong developmental biology experience in general, neurodevelopment experience in particular

Associate Scientist, Molecular and Cell Biologists: Job Code: NAMC Experience in cell biology and small animal surgery

- Familiarity with molecular biology and protein chemistry a plus

FERTILITY RESEARCH

Ph.D., Fertility Biologists: Job Code: FPF Broad developmental biology background, with particular

expertise in gonadal development Experience with transgenic mice and molecular biology strongly

desired

Associate Scientist, Molecular/Cell Biologists; Job Code: FAMC Three plus years experience with PCR, RT-PCR, blots, protein

expression, transfection and immunohistochemistry Familiarity with culturing mammalian cell lines and primary cells

- SKIN RESEARCH Associate Scientist, Molecular/Cell Biologists: Job Code: SAMC
- Minimum of 3 years experience in cell or molecular biology
- Background in the study of skin required
- Competence in immunohistochemistry, histology, animal models and microdissection a plus

LABORATORY SUPPORT

Job Code: LM Lab Manager: B.S./M.S./Ph.D. with laboratory research experience

Excellent organizational, managerial and teamwork skills are key to this position

Knowledge of cell and molecular biology

- Animal Care Technicians:
- Competence in the management and care of laboratory animals
- Basic understanding of laboratory practices

We offer a very competitive compensation package, including incentive stock plan, challenging projects, and a positive team environment. Please respond, indicating all applicable job code(s) to: Marlene A. Thayer, Director, Human Resources, 45 Moulton Street, Cambridge, MA 02138-1118; Fax (617) 876-0866. No telephone calls please.

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Strong cell culture experience desired

The Power Of Technology Gives Us The Power To Discover.

A lot of biotech jobs put you just off an interstate, a beltway, or freeway, but we'll surround you with rolling treecovered hills, the ocean to the east, and the mountains to the west. Research Triangle Park thrives with technology, but offers all the benefits of living in beautiful North Carolina.

RESEARCH TRIANGLE PARK, NC

Sphinx Pharmaceuticals continues to reinvent the lead generation process by bringing screen development, automation, high throughput screening, combinatorial

chemistry, and information technology into a fully integrated drug discovery engine. This inclusive team approach will allow you to utilize your current scientific expertise while working closely with other scientists to develop cutting-edge drug discovery tools. We invite you to apply your skills to change the world of drug discovery. Currently we are looking for high energy team players with the following backgrounds:

Project Leaders

The selected candidates will be responsible for the development, implementation, and lead follow-up of high throughput and ultra-high throughput screens. Responsible for leading interdisciplinary teams integrating novel biological approaches with innovative technologies and instrumentation in a dynamic biotechnology atmosphere.

PH.D LEVEL SCIENTISTS with experience in one or more of the following: Mammalian Expression Systems and Cell Culture

- FACS
- Mammalian Reporter System Construction
- Assay Development, Minaturization and Automation
- GPCRs, Signal Transduction
- Fluorescent Assay Technologies
- Enzyme and Receptor Characterization
- Toxicology and ADME Surrogate Models

Combinatorial Chemists

Ph.D in Synthetic Chemistry to focus on the development of new methods, chemistries, equipment, and automation for parallel array synthesis. The successful candidates will show strong desire to develop new technologies to accelerate lead generation.

We are also seeking the following individuals...

BS/MS LEVEL SCIENTISTS with experience in one or more of the following: Cell Biology and Mammalian Cell Culture

- Molecular Biology
- Biochemistry/Enzymology
- Software/Systems Engineering
- FACS Operation
- Analytical Biochemistry

- Automation
- Data Management
- Synthetic Chemistry
- Combinatorial Chemistry





The ideal candidates will function effectively on lead generation teams which integrate biology, chemistry, automation and information technology.

With competitive compensation, benefits and a supportive professional environment, you'll have the power to achieve your career goals. For consideration, please send your resume to: Sphinx Pharmaceuticals, Attn: Human Resources, 4615 University Drive, Durham, NC 27707. We are an Equal Opportunity Employer.

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People are the heart of our company.

Our corporate culture inspires and commits all to do their best.



Pharmaceutical Division

Biotechnology

SCIENTISTS

■ In the highly competitive global pharmaceutical marketplace, there are many "Bayer Facts" which distinguish us as a leader. To name a few, we are part of Bayer Corporation, a \$26.8 billion international diversified organization and one of the most broadly-based healthcare companies in the U.S. Our Biotechnology Unit is situated on a 43-acre campus in Berkeley, CA and is responsible for the global research, development and production of biotechnically derived products.

PRECLINICAL DEVELOPMENT

■ Staff Scientist, Research Toxicology

You will develop exploratory models that assess the immunomodulatory potential of new therapeutic entities.

To qualify, you must have a PhD or DVM with recent post-doctoral experience in immunopathology or immunotoxicology. A background in ex vivo analysis of immune functions is highly desirable. Response Code MJY 67B

■ Staff Scientist, Clinical Chemistry

You will develop and troubleshoot a wide variety of immunochemistry and biochemistry-based assays to support preclinical models of human disease and clinical trials with investigational new drugs.

To qualify, you must have a PhD in immunochemistry, immunology or biochemistry with recent post-doctoral experience in immunoassay development. Response Code MJY 157B

PHARMACOLOGY

Senior Staff Scientist

Through experimental research, you will identify and develop novel indications for existing plasma-derived products along with developing additional products. You'll also supervise laboratory technicians.

To qualify, you must have an advanced degree in pharmacology, physiology or a related field and 8+ years of experience in preclinical evaluation and the development of experimental protein therapeutics. A supervisory background is also essential. Experience with plasma-derived proteins is highly desirable. Response Code MJY 06B

Senior Scientist/Staff Scientist

Utilizing state-of-the art technology, you will be involved in in vivo model development and the pharmacological evaluation of experimental protein therapeutics.

To qualify, you must have a PhD in biology, pharmacology or a related area and 4+ years of directly related experience. Strong communication and interpersonal skills are essential. Response Code MJY 017B

Senior Associate Scientist

You will plan, conduct and evaluate basic and applied experimentation and/or product development for R&D projects.

To qualify, you must have an MS or BS in biology or a related discipline and 4+ years of directly related experience, including a background with in vivo animal modeling. Strong surgical, data compiling and experimental analysis skills are also essential. Response Code MJY 018B

...and there's one more fact. If you're ready to join us, there's no better time than now. For immediate consideration, please forward your resume (indicating response code) to: Human Resources, Bayer Corporation, Pharmaceutical Division, P.O. Box 1986, Berkeley, CA 94701. No agencies or phone calls please. For more information on Bayer, search:

http://www.careermosaic.com/cm/bayer/

An Equal Opportunity Employer M/F/D/V. Bayer Corp. is committed to establishing and maintaining cultural diversity within our work environment.

$oldsymbol{T}$ he Quest For Success Begins With The Best

DuPont is a world leader in research in the chemical and biological sciences, from fundamental and applied research programs ranging from industrial bioprocesses to genetically improved crops, and faster routes to environmentally friendly crop protection chemicals. We are now seeking Ph.D. Principal Investigators to join multidisciplinary teams of Life Scientists, Chemists and Engineers. Both M.S. and B.S. Scientists are needed for each project area. Postdoctoral opportunities in microbial diversity, molecular diversity/combinatorial chemistry and chiral synthesis are also available.

Microbial Diversity

Principal Investigator and Postdoctoral positions are available in research utilizing molecular biology and genomics to access microbial diversity for innovative applications to DuPont's chemicals and materials businesses. Candidates should have a strong background in microbial genetics and molecular biology as well as microbial ecology and physiology. Specialists in other forefront approaches to microbiology such as genome sequence analysis or molecular ecology will also be considered. Applicants for Principal Investigator should have a Ph.D., plus postdoctoral experience. These positions offer an excellent opportunity to initiate, within a team, an independent research program to access microbial diversity for innovative applications. Please refer to: **PSS0213**

Molecular Biology/Biochemistry

We seek a broadly trained Ph.D. level Molecular Biologist to interact with combinatorial chemists, plant molecular biologists and bacterial geneticists in the design and implementation of screens and selections for bio-catalyticly active compounds. The successful candidate will provide input into chemistry programs at their inception allowing a melding of assay requirements with synthetic design parameters. Moreover, we envision that the principal investigator will utilize a wide array of molecular techniques such as encoding protocols, bead technologies, phage display, aptamer amplification and immunological procedures to accomplish group objectives. Appreciation of the power of genetic selections and visual screens may lead the candidate to novel approaches for discovery of chemical leads. Please refer to: **PSS0214**

Molecular Genetics

The Bioprocess Development Center has a position available for a molecular geneticist to join a team of scientists working in the area of metabolic pathway engineering of diverse microorganisms for the production of industrial chemicals and polymer intermediates. A Ph.D. in microbiology, molecular biology, or a related field with at least 2 years of relevant postdoctoral or industrial experience in the application of current molecular biological or classical mutagenesis/selection techniques for strain development in diverse microbial systems is required. Additional experience in protein engineering or modeling is highly desirable. Please refer to: **PSS0215**

Intracellular Metabolism

The Bioprocess Development Center in DuPont Central Research has an opening for a Scientist who will have the primary responsibility for characterizing intracellular metabolism. The successful candidate should have a Ph.D. with experience in analytical biochemistry, chemistry or microbial physiology. The candidate should have at least 2 years of relevant postdoctoral experience in microbial physiology or a field where the application of current analytical tools and the development of approaches to study intracellular metabolism is required. It is also desirable that the applicants have experience in metabolic control analysis or mathematical modeling. Please refer to: **PSS0216**

Plant Disease Resistance

We are seeking innovative, highly skilled researchers to join a multidisciplinary team focused on genetic solutions for the control of fungal disease in crop plants. Applicants should have a Ph.D. and postdoctoral experience, and demonstrated expertise in the analysis and manipulation of pathogenicity and plant defense responses. Principal Investigator positions are available for plant pathologists and fungal molecular geneticists experienced in the study of agronomically important fungal pathogens, as well as for plant molecular geneticists proficient in mapping and cloning plant genes. The successful candidates will work closely with a team studying the genomics of plants and plant pests. We encourage applicants having experience with cereal crops and/or rice as well as those with experience using model systems. Please refer to: **PSS0217**

Molecular Diversity/Combinatorial Chemistry

Principal Investigator and Postdoctoral positions are available in research efforts developing capabilities in combinatorial chemistry synthesis, solid phase synthesis, calculation of molecular diversity, and advanced screening methodologies. Organic synthesis, chemical screening, and biological screening positions are available for applications to DuPont's chemicals, materials and agriculture products businesses. Please refer to: **PSS0218**

Chiral Synthesis

Principal Investigator (or Postdoctoral) positions are available in research program developing capabilities and new methodologies for the synthesis of chiral organic molecules. Creative synthesis can be combined with career plans that offer many opportunities in research and process chemistry. Please refer to: **PSS0219**

Bioprocess Engineering

The Bioprocess Development Center has an opening for a Ph.D. Chemical/Biochemical Engineer. The successful candidate will join a multidisciplinary team of molecular biologists, microbiologists, biochemists, chemical and biochemical engineers and other members of DuPont's research staff. The Bioprocess Engineering group seeks to understand and develop processes which utilize biotransformations to synthesize products for DuPont's chemicals and materials businesses. Key research areas in the group are fermentation process optimization and modeling, enzymatic pathway modeling, mass transfer, separations, and process synthesis and evaluation. Please refer to: **PSS0220**

Whether you are just starting your career or looking for growth opportunities, we encourage you to apply. We are looking for highly motivated individuals who can become members of our research teams to enhance both our success as well as their own. You will enjoy our state-of-the-art Experimental Station facilities. These positions offer a highly competitive salary and an excellent benefits package. We are located in Wilmington, DE, an area that offers an attractive lifestyle with easy access to all the cultural, academic and recreational activities on the Eastern Seaboard. Qualified candidates should send a resume and three references to: DuPont Human Resources, PSS#,1007 Market Street, N12419, Wilmington, DE 19898. We are an equal opportunity employer. **Please make reference to the job code when responding.**



DuPont Central Research and Development

Pharmaceutical

Group Leaders, Scientists Assistant Scientists

Bring your skills to the heart of the pharmaceutical industry

Ortho Diagnostic Systems Inc. (ODSI), a Johnson & Johnson company, specializes in diagnostic reagent and instrument systems used in hospital and commercial labs, and in blood donor centers. Our diagnostic systems for coagulation, AIDS, hepatitis and other infectious diseases set the standard for the industry. Right now, we are seeking forward-thinking professionals for our CENTRAL NEW JERSEY LOCATION — individuals who are eager to play key roles in developing the next generation of these products for the worldwide market.

Opportunities are available immediately at the Group Leader level for individuals with a PhD and 5-8 years of experience in ELISA development in infectious disease and virology as well as the Scientist and Assistant Scientist level for individuals with a BS or MS and 1-5 years of experience. Strong communication skills are also essential, and the ability to work well in a multidisciplinary setting is a must.

We offer highly attractive salaries and comprehensive benefits including medical/dental insurance, a 401(k) plan and our LIVE FOR LIFE Wellness Program with on-site fitness center. You'll also enjoy a wealth of cultural and recreational options afforded by our location (convenient to both New York City and Philadelphia) in the heart of the nation's pharmaceutical community. For consideration, please forward your resume to: Johnson & Johnson Recruiting, Dept. 1288, P.O. Box 16597, New Brunswick, NJ 08906-6597. We are an equal opportunity employer and support diversity in the workplace.

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A Recipient of the 1996 National Medal of Technology and New Jersey's Most Admired Company

CELL GENESYS CORPUTE BENESYS CORPUTE BENESIS CORPUTE C

of gene therapies to freat major life threatening diseases including AIDS and Cancer. We are seeking an Associate Scientist to work on a project examining the impact of the host immune system on the efficacy of gene transfer with adenoviral gene therapy vectors and the development of vectors to circumvent this immune response. To qualify, candidates must have a Ph.D. or M.D., at least 2 years of postdoctoral experience, a strong publication record in cellular immunology, virology and/or gene therapy, and have worked with animal models in these studies. Familiarity with cell culture techniques and supervisory experience are a plus. The ability to work in a team environment is essential.

We offer a competitive salary, excellent benefits and equity participation. For immediate consideration, send your resume with cover letter to: Human Resources, Cell Genesys, Inc., 342 Lakeside Dr., Foster City, CA 94404. We are an equal opportunity employer.

> ر Cell Genesys

the future happens here first

Roche Bioscience offers an exciting environment of innovation in human pharmaceutical research. Situated in one of California's most vital technological regions, our Palo Alto campus presents a unique setting that combines the synergy of science and business to produce research that delivers results. Join our research-based enterprise as we discover important new medical therapies and create a future of industry firsts.

As an equal opportunity employer, we are committed to workforce diversity. We proudly offer ongoing career opportunities for Scientists in most areas of modern biology and chemistry, including this featured opportunity:

RESEARCH ASSOCIATE

The Inflammatory Diseases Unit is seeking a Research Associate to join our Biotechnology Group. You will participate in the production of transgenic and knock out mice. The ideal candidate will possess a BS with 3+ years' experience in pronuclei DNA microinjection and ES cell injection into blastocyst. Experience in basic molecular cloning techniques and tissue culture is desirable.

Located in the San Francisco Bay Area—close to Stanford University and near scores of biotechnology companies—Roche Bioscience offers a highly attractive salary, bonus plans, a full benefits package, including relocation assistance, plus a unique environment that rewards new ideas and courageous decision-making. If you would like to explore our opportunities firsthand, apply today by sending your resume to: Roche Bioscience, Job Code SCI0418KH, 3401 Hillview Avenue, Palo Alto, CA 94304. Fax 415/424-8159.

You may also see us on the WWW at: http://www.roche.com/bioscience.







ACACIA BIOSCIENCES REINVENTING DRUG DISCOVERY

Acacia Biosciences is a functional genomics company located in the San Francisco Bay Area with a radical approach to drug discovery that promises to turn the industry on its head. Utilizing our patented global gene expression monitoring technology, we profile the comprehensive biological activity of chemical compounds from combinatorial and natural product libraries.

We are expanding our scientific team in the following areas:

SCIENTIST, MOLECULAR BIOLOGY/ GENETICS. You will lead a team of researchers who will implement our proprietary drug discovery technology and manage a chemical profiling project with our collaborators. The successful candidate will have a Ph.D. with postdoctoral experience and expertise in molecular cloning. Experience in yeast genetics and/or drug screening is preferred but not required.

DIRECTOR, BIOINFORMATICS. You will manage the integration of a complex data base incorporating individual chemical and genetic profiles, develop tools to automate the analysis of therapeutic value and side effect potential of lead compounds and supervise routine system administration. A Ph.D. or BS/MS in an experimental science, with experience managing large databases and programming expertise in "C" under UNIX are required.

POSTDOCTORAL FELLOW, MOLECU-LAR BIOLOGIST/BIOCHEMIST. We have recently discovered new proteases that play an important role in signal transduction and cell growth. The project emphasis will be to characterize the human genes encoding these proteases as targets for cancer therapy. The postdoctoral appointment will be for two years.

RESEARCH ASSOCIATE. You will join a team of researchers developing new assays and managing genetic-based profiling of lead compounds. A B.S. in Biology or Chemistry and experience with molecular cloning and microbiological techniques are required.

We offer a competitive salary, benefits and stock options to all employees. Please send C.V. or resume to:

Acacia Biosciences Inc. 4136 Lakeside Drive Richmond, CA 94806 Fax: 510.669-2334 E-mail: vwash@acaciabio.com Biogen has established a unique record of success as the world's oldest independent biotechnology company. Pioneering research by our scientists has led to the discovery and development of a number of important new medical therapies. In 1996, we introduced our first proprietary product, AVONEX® (Interferon beta-1a), a treatment for relapsing forms of multiple sclerosis, and achieved our goal of becoming a fully operational biopharmaceutical company. Today, we are seeking the following committed professionals to join our expanding global team.

IN BIOTECHNOLOGY

SR. SCIENTIST - BIDASSAY

This is an excellent opportunity for an individual with good people and project management skills to develop and validate immunoassays and LC/MS/MS assays to support the preclinical and clinical development of products, stability testing and product release. Specifically, you will be responsible for generation, characterization and the labeling of reagents, as well as assay development, optimization and validation. In addition, you will write SOPs, create assay development repros and manage the technical staff. Requires a PhD and at least 5+ years' relevant experience in both amino assays and LC/MS/MS. Proven experience in assay development and validation is needed, as is knowledge of sample testing. The ability to trouble shoot assays efficiently is necessary, as is the ability to understand the background biology behind a project. Excellent communication and record keeping skills are essential, as is the ability to interact with scientists from diverse disciplines. Management experience is required, as is knowledge of GLP and GMP regulations. (Code: JM)

BIDASSAY ANALYST IV/SCIENTIST I

You will be responsible for assisting in the development and optimization of bioassay methods for determining the in vitro and ax vivo function of biological products. This includes the optimization and production of critical reagents and the standardization of operating parameters, as well as the definition of data reduction routines, specifications and performance criteria. In addition, you will be responsible for test samples submitted for product characterization, batch release and analysis of pharmaccodynamic properties. Other areas include training analysts to perform methods while writing method development reports and standard operating procedures suitable for regulatory filings. Requires a PhD degree with 1 - 2 years' experience with bioassays; Or an MS or a BS degree with a minimum of eight years' experience in the development and performance of bioassays. A demonstrated ability to optimize and perform mammalian tissue culture, cytotoxicity, proliferation, signal transduction, FACS and/or other biological assays is necessary. Knowledge of GMP/GLP is desirable. Experience with molecular biology is preferred. (Code: JM)

SR. SCIENTIST - Q/C TECHNICAL SERVICES

You will be responsible for the development and validation of analytical test methods for novel pharmaceuticals, including small molecules and biotechnology products, in all phases of development. This includes conducting analytical research and development methods for characterization. In addition, you will work on pharmaceutical product development programs as a member of multidisciplinary teams, as well as stay abreast of regulatory requirements. Requires a PhD in Analytical Chemistry or the equivalent with 5 - 7 years' experience in pharmaceutical analysis. Experience with the characterization and analysis, including dissolution and stability testing, of small molecules and oral dosage forms (solid and liquid) are essential. Knowledge of GMPs and regulatory requirements for analytical aspects of parenteral, liquid, semi-solid and solid dosage forms is necessary. Experience managing an analytical group for dissolution testing is needed, as are good oral and written communication skills. Experience with LIMS lab automation is preferred. **(Code: JM)**

SCIENTIST - ANALYTICAL PROCESS DEVELOPMENT

In this newly created position you will have the opportunity to devise, characterize and qualify analytical methods for use in optimizing all aspects of process development. You will supervise associates in development work and in routine analysis as well as represent the process development analytical group on project teams. A Ph.D. in Biochemistry, Chemistry or Biology with at least 4 years' industrial experience in the Pharmaceutical, Diagnostics or Research Products industries is required. Supervisory experience is also necessary. (Code: LS)

Biogen offers what few companies in our industry can - Professional Challenge, Stability, Growth, and one of the strongest financial profiles in the industry. In addition, our compensation and benefits package, including equity participation, is one of the best in the industry, and is designed to attract and retain the finest talent available. Please forward your resume, indicating appropriate job code to: Biogen, Inc., 14 Cambridge Center, Cambridge, MA 02142 Fax: (617) 679-2546 E-mail: resumes@biogen.com Biogen is an Equal Opportunity Employer.



DELIVERING ON THE PROMISE OF BIOTECHNOLOGY

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Georgetown University Medical Center is seeking a DIRECTOR for its Institute for Molecular and Human Genetics. The successful candidate must be recognized as a national leader in the field of genetics. Certification by the American Board of Medical Genetics is preferred, but not required. This individual must demonstrate a commitment to the enhancement of the study of genetics as well as providing the mechanisms for integrating genetics research across departments, Institutes and other Research Centers at Georgetown University Medical Center. The directorship will encompass the vision of the center, and will oversee the clinical and teaching activities, basic science research as well as the genetic diagnostic laboratories. Letters of interest with current curriculum vi-

tae should be sent to:

Georgetown University Medical Center Search Committee IMHG, Director 3970 Reservoir Road, Room E511 Washington, DC 20007

Affirmative Action/Equal Opportunity Employer

PROFESSOR AND HEAD LAUTENBERG CENTER OF IMMUNOLOGY THE HEBREW UNIVERSITY-HADASSAH MEDICAL SCHOOL Jerusalem, Israel

The Hebrew University is seeking an outstanding indi-vidual to provide leadership as **HEAD** of the Department of Immunology and the Lautenberg Research Center starting 1998. Candidates are expected to have an active and internationally recognized research program, demonstrated administrative ability and experience, excellent communication and interpersonal skills, and a dynamic and innovative approach to leadership that will build on existing strengths in research and teaching. The Center has active research programs in cell and molecular immunology and molecular cancer research.

Please direct application, including curriculum vitae, list of publications and names of three or more references to:

Dr. Howard Cedar Immunology Search Committee Hebrew University-Hadassah Medical School Ėin Kerem Jerusalem, Israel 91120 Deadline for applications: July 1, 1997.

TRANSPLANT IMMUNOLOGIST

A position is available for a research immunologist at the tenure-track ASSISTANT or ASSOCIATE PRO-FESSOR level. A background in molecular immunology and two-plus years postdoctoral experience is required. The candidate will establish an independent research program focusing on tolerance, xenotransplantation, chronic rejection, and endothelial cell biology.

The department has an established program in transplant tolerance and collaborates with the basic science departments, allowing for the possibility of a secondary appointment.

Please send a résumé, statement of research goals, and personal references to:

Dr. Mark Orloff, Department of Surgery Section of Transplantation University of Rochester School of Medicine 601 Elmwood Avenue, Rochester, NY 14642 Equal Opportunity Employer/Affirmative Action

ASSISTANT/ASSOCIATE PROFESSOR of cropping systems, 12-month, tenure-track, faculty position. Plant, Soil and Environmental Sciences Department, Montana State University, Bozeman, Montana. Available after July 1, 1997. Responsibilities: 90% research, 10% teaching. Required: Ph.D. in agronomy, ecology, plant science, soil science or related discipline. Applicants must request a complete vacancy announce-ment from: Kathy Jennings, Plant, Soil and Environmental Sciences Department, Montana State University, P.O. Box 173120, Bozeman, MT 59717-3120. Telephone: 406-994-4601; FAX: 406-994-3933; Email: kathyj@gemini.oscs.montana.edu. Screening begins June 20, 1997. No fax applications. Americans with Disabilities Act/Equal Opportunity/Affirmative Action/Veterans Preferred.

POSITIONS OPEN

MICROBIOLOGY DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY University of Kentucky

The Department of Microbiology and Immunology, College of Medicine, University of Kentucky seeks candidates for a full-time, tenure-track faculty oscilon at the ASSISTANT PROFESSOR level, available July 1997. Applicants should have a Ph.D. or equivalent degree, postdoctoral experience, expertise in molecular biology and an interest in developing a program in host-pathogen interactions. The successful candidate is expected to develop/maintain an innovative, externally-funded research program as well as participate in graduate and medical student teaching. This is an excellent opportunity to join an established group of faculty with research programs in procaryotic and eucaryotic pathogenesis and molecular biology and a strong predoctoral and postdoctoral training program. The Department currently has twenty ten-ure-track faculty with research programs in microbial pathogenesis, eucaryotic molecular biology, molecular and cellular immunology, molecular virology and tumor biology

Excellent start-up funds, state-funded salary commensurate with experience, and modern research facilities will be provided. Applications should include curriculum vitae, representative reprints, a statement regarding research interests and future plans, as well as three letters of recommendation. Send all materials to: Dr. Robert Perry, Chair, Faculty Search Committee, Department of Microbiology and Immunology, M\$415 Medical Center, University of Kentucky, Lexington, KY 40536-0084. Telephone: 606-323-5313; FAX: 606-257-8994. The University of Kentucky is an Équal Opportunity/Affirmative Action Employer and has an affirmative duty to reasonably accommodate otherwise qualified individuals with a disability.

The Biology Department at Northeast Louisiana University is soliciting applications for **DEPART**-**MENT HEAD** to begin fall semester, 1997. NLU is a state-supported institution of 11,000 students with approximately 400 biology majors. The department offers B.S. and M.S. degrees in biology; and provides service courses for allied health professionals. The department employs 20 full-time faculty (17 tenure-track and 3 non-tenure instructors); and houses one of the largest herbaria in the southeast and one of the largest collections of freshwater fishes in the U.S. Faculty research interests include the systematics, evolution, ecology, and physiology of animals, plants and microorganisms at the molecular and organismal levels. Applicants should possess a Ph.D. in an appropriate field and demonstrate an active research interest. The successful candidate should possess the skills and vision necessary to facilitate departmental development efforts. Rank and salary are open. Teaching responsibility is one course per semester. Send curriculum vitae, philosophy of administration, research goals and needs, teaching interests, and three letters of recommendation to: Department Head Search Committee, Department of Biology, North-east Louisiana University, Monroe, LA 71209-0520. Initial screening will begin June 1, 1997. For further information, Email: bisearch@alpha.nlu.edu; Telephone: 318-342-1822. Northeast Louisiana University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR

The Department of Anatomy and Cell Biology is ac-cepting applications for a **TENURE-TRACK POSI-TION** beginning January 1998. Applicants should have a Ph.D., M.D. or equivalent degree with sufficient teaching experience to direct and participate in neuroscience/neuroanatomy courses for professional students and to contribute to an Interdisciplinary Graduate Program. Applicants must have extramural support for research preferably in cellular/developmental neuroscience. A curriculum vitae, statements of current and future research plans, and names of three references should be submitted to: Dr. Roberta Pentney, Professor and Interim Chairperson, Department of Anatomy and Cell Biology, School of Medicine and Biomedical Sciences, 317 Farber Hall, State University of New York, Buffalo, NY 14214-3000. For additional information, check our web site at: http://wings.buffalo.edu/smbs/acb. Interviews with selected applicants will commence September 15, 1997.

SUNY is an Affirmative Action/Equal Opportunity Employer and we seek applications from women and minorities.

FACULTY POSITIONS IN MOLECULAR PATHOLOGY

The Department of Pathology in the UC Irvine College of Medicine is seeking to fill two TEN-URE-TRACK or TENURE-LEVEL POSI-TIONS in the Division of Diagnostic/Research Molecular Pathology. The Department of Pathology is making a major commitment to the expansion of its Molecular Pathology program in sup-port of clinical activities at the UCI Medical Center, the (NCI-designated) UCI Clinical Cancer Center, and UCI-affiliated medical centers in Southern California. Newly designed laboratory space will house the clinical and developmental molecular pathology activities. Candidates should hold a Ph.D. and/or M.D. degree, and have demonstrated expertise in clinical molecular pathology. Board-certification or eligibility in one or more of the following is highly desirable: pathol-ogy; molecular pathology; clinical molecular genetics. In addition, applicants should have an established, independent research program in a relevant area of biomedicine.

Interested applicants should send a curriculum vitae, the names of three references, and a brief statement of clinical expertise and research inter-ests to: Michael E. Selsted, M.D., Ph.D., Chair, Molecular Pathology Search Committee, Department of Pathology, College of Medicine, University of California, Irvine, CA 92697 4800. The University of California is an Equal Opportunity Employer

ACADEMIC BASIC SCIENCE FACULTY POSITION

The Duke University Department of Ophthalmology is accepting applications for a full-time, tenure-track, basic science FACULTY POSITION in the area of retinal cell biology. The successful candidate will join an existing basic science faculty and will be expected to develop an independent funded research project in the field of proliferative eye disease. A strong commitment to establishing meaningful collaborative interactions with both the basic science and clinical faculty will be essential. Candidates must have a Ph.D. with broad experience in retinal cell biology and expertise in molecular biology, protein chemistry and recombinant protein expression using eu-karyotic systems. Preference will be given to those with experience in the structure and function of cell adhesion molecules. Interested candidates should send a résumé, statement of research interest and a list of three references to: David L. Epstein, M.D., Professor and Chairman, Duke Eye Center, Box 3802, Duke University Medical Center, Durke University is an Affirmative Action, Equal Opportunity Employer.

LABORATORY DIRECTOR NATIONAL MARINE FISHERIES SERVICE National Oceanic & Atmospheric Administration San Francisco, California

The Southwest Fisheries Science Center announces a vacancy for DIRECTOR, Tiburon Laboratory (Research Fishery Biologist GS 15). Director plans and manages research programs, interacts with private industry, universities, state government, national and international research organizations. Director is responsible for develop-ing conceptual approaches and conducting research programs on the role of groundfish and salmon in the Cali-fornia Current Ecosystem. The position (W/NMF/ 97082.JN) is open to applicants April 9 through 30, 1997. Vacancy specifics available at http://www.rdc. noaa.gov/~webvas/

Visiting ASSISTANT PROFESSOR in aquatic ecology. This is a one-year position to teach aquatic ecology (with laboratory), marine biology, and to participate in teaching introductory biology. Candidates should have a Ph.D. and teaching experience with undergraduates. Experience in advising undergraduate research is desirable. Applications will be evaluated beginning April 30. Send curriculum vitae, statements of teaching and research interests, undergraduate and graduate transcripts and three letters of evaluation to: Ecologist Search Committee, Biology Department, Kenyon College, Gambier, OH **43022.** An Equal Opportunity Employer, Kenyon encourages the applications of women and minority candidates.



POSITIONS OPEN

CELL BIOLOGIST/NEUROPHYSIOLOGIST UNIVERSITY OF FLORIDA

The University of Florida College of Dentistry and the University of Florida Brain Institute invite applications for a tenure-track position at the level of ASSISTANT or ASSOCIATE PROFESSOR. The applicant should have a background or strong interest in sensory neurobiology and be willing to participate in multidisciplinary grants and other collaborative efforts to study the patho physiology of chronic pain. The competitive candidate will have demonstrated skills in electrophysiological preparations (e.g., dissociated cell, organotypic slice, primary culture) or applicable molecular/cellular biological methods. It is expected that the applicant will have established, or will develop, an externally-funded research program and contribute to teaching in the Colleges of Dentistry and/or Medicine. Candidates should have a Ph.D. and at least two years of postdoctoral or equivalent experience. Competitive salary support and start-up funds will be provided.

Applications, including a curriculum vitae, statement of research interests, representative publications, and list of at least three references should be sent to: Dr. Brian Cooper, Committee Chairman, Department of Oral and Maxillofacial Surgery, University of Florida, College of Dentistry, Box 100416 JHMHC, Gainesville, FL 32610. Applications will not be considered after August 1, 1997. The University of Florida is an Equal Opportunity/Affirmative Action Institution. The selection process will be conducted under the provisions of Florida's "Government in the Sunshine" and Public Records laws. Search applications, résumés, and other documents related to the search will be available for public inspection.

FACULTY POSITION - FALL 1997

ASSISTANT PROFESSOR of biology, School of Theoretical and Applied Science – One year appointment renewable on a year-to-year basis for a maximum of three years. Applicants should have a background in molecular aspects of development or neuroscience in invertebrates. Should have experience in and commitment to teaching introductory courses in biology to majors and non-majors, as well as specialty courses. The applicant should have an ongoing research project that is appropriate for undergraduate involvement. Participation in student advisement and committee work is required in this position. Ph.D. or ABD with imminent completion date required. Two years of college teaching experience desirable.

Since its beginning, Ramapo College has had an intercultural/international mission. Please tell us how your background, interest and experience can contribute to this mission, as well as to the specific position for which you are applying. To request accommodations, call: 201-529-7498; FAX: 201-529-7508. The review process will commence May 31, 1997 and continue until the position is filled. Please submit letter, curriculum vitae, and addresses and telephone numbers of three references to: Dr. Joseph Dallon, Search Committee Chair, School of Theoretical and Applied Science.

MAMMALOGIST CARNEGIE MUSEUM OF NATURAL HISTORY

Carnegie Museum seeks a **CURATOR** to head the Section of Mammals. Applicants should have a Ph.D.; strong interest in specimen-based studies; proven achievement in publication and curation; strong interest in public education/exhibits. Salary/rank commensurate with qualifications. Submit letter outlining professional interests and goals; curriculum vitae; three selected publications; addresses and telephone numbers of five references to: Ellen J. Censky, Chairman, Division of Life Sciences, Carnegie Museum of Natural History, 4400 Forbes Avenue, Pittsburgh, PA 15213 by July 1, 1997. *An Equal Employment Opportunity*.

RESEARCH ASSISTANT PROFESSOR, RNA Virology. Full-time research faculty position immediately available at the University of Virginia School of Medicine. Non-tenured three-year appointment at assistant professor level. Apply molecular virology techniques in developing core laboratory for support of antiviral/vaccine studies on respiratory viruses. Apply by June 15, 1997. Send curriculum vitae and names of three references to: Frederick G. Hayden, M.D., Department of Medicine, Box 473, University of Virginia Health Sciences Center, Charlottesville, VA 22908. Equal Opportunity/ Affirmative Action Employer.



POSITIONS OPEN

Exciting science, innovative technology and enormous potential are characteristics of Heska Corporation. Our research teams have created unique products in companion animal health and we continue to apply new technologies to create new product opportunities. We are seeking select individuals to help make Heska the dominant biotechnology company in companion animal care. We are currently recruting for the following position:

SCIENTISTS, ALLERGY

Position available for a qualified individual to focus on developing novel immunotherapeutics for companion animal allergy. The successful candidate will have a Ph.D. in immunology or related field with three to five years relevant postdoctoral experience.

Position available for a qualified individual to carry out basic research on the role of mast cells/basophils in companion animal allergy. The successful candidate will have an M.S. in immunology or cell biology plus three to five years experience or a recent Ph.D. in a related field.

In exchange for your skills and experience we offer a highly competitive salary and benefits package. Please indicate the position for which you are applying when sending your résumé to:

> Heska Corporation Human Resources Department 1825 Sharp Point Drive Fort Collins, CO 80525 Equal Opportunity Employer

LABORATORY INSTRUCTOR DEPARTMENT OF BIOLOGY JOHNS HOPKINS UNIVERSITY

We are seeking applications for a full-time, non-tenure-track position as **INSTRUCTOR** for our developmental biology and genetics laboratory courses to begin January 1998. Applicants should have a Ph.D. and be trained in developmental biology and/or genetics. The successful candidate will be responsible for updating existing laboratory exercises and developing new exercises, organizing the materials needed for each laboratory exercise, training teaching assistants assigned to the courses, monitoring WWW sites for those with information useful for developmental biology and genetics lab students, and participation in the academic advising of undergraduates and preparation of proposals for extramural support of the courses. Send curriculum vitae and description of prior teaching experience and arrange to have three letters of reference sent to: Allen Shearn, Instructor Search Committee, Department of Biology, Johns Hopkins University, Baltimore, MD 21218, by July 1, 1997. The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.

The Ohio State University, School of Public Health, Division of Environmental Health Sciences is accepting applications for a full-time **ASSISTANT** or **ASSOCI**-ATE PROFESSOR. This is a nine-month tenure-track position. Candidate should have either a Ph.D., or Ph.D. and M.P.H. degrees, or equivalent degree(s) with demonstrated expertise in environmental toxicology/environmental health. Teaching and research activities should be focused on chemical or other agents in the ambient or occupational environment, Candidate will teach courses, advise graduate students, develop independent research projects, and apply for external funding. Collaboration with the Department of Civil and Chemical Engineering to include a joint appointment in the College of Engi neering will be encouraged. Send a curriculum vitae and three names as references to: Gary D. Stoner, Ph.D., Chief, Division of Environmental Health Sciences, 1148B James Cancer Hospital, 300 West 10th Avenue, Columbus, OH 43210-1240. The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Qualified women, minorities, Vietnam-era veterans and individuals with disabilities are encouarged to apply.

CELL/MOLECULAR BIOLOGIST

A position for a Cell/Molecular Biologist/SENIOR STAFF FELLOW is open at the Clinical Diabetes and Nutrition Section of the NIDDK/NIH in Phoenix, Arizona to study obesity candidate genes in man. Applicants nust have a Ph.D. or M.D. degree and experience in cell biology and molecular techniques. Send curriculum vitae and two letters of reference to: Eric Ravussin, Ph.D., NIH, 4212 North 16th Street, Phoenix, AZ 85016.

POSITIONS OPEN

UNIVERSITY OF MINNESOTA FULL/ASSOCIATE PROFESSOR PHARMACEUTICS College of Pharmacy

The College of Pharmacy invites applications for a 12-month, full-time, FULL/ASSOCIATE PROFESSOR with research interests in macromolecular drug delivery. Applicants must have an earned doctorate (or foreign equivalent), at least five years of research experience, and a strong publication record in peer-reviewed journals. Applications including a brief description of current research, future research plans, curriculum vitae and the names and addresses of three references should be sent to:

Raj Suryanarayanan Chair, Search Committee College of Pharmacy, 308 Harvard Street, S.E. Minneapolis, MN 55455-0343 Complete position description at: http://www.ahc.umn.edu/jd/ pharmaceutics.html.

Review of applications will begin on May 15, 1997 and applications will be accepted until June 30, 1997. *Equal Opportunity Educator and Employer.*

FACULTY POSITION(S) in medicinal chemistry/ pharmacognosy: The Department of Medicinal Chemistry and Pharmacognosy, University of Illinois at Chicago, invites applications and nominations for one or more fulltime, tenure-track positions at the ASSISTANT, ASSO-CIATE, or FULL PROFESSOR LEVEL. A Ph.D. degree in pharmacognosy, natural products chemistry, or a related discipline, with a research interest in natural products drug discovery and/or mechanism of action is required. Postdoctoral experience is necessary, and a back-ground in pharmacy is desirable. The successful candidate(s) will be required to develop a strong, extramurallyfunded, independent research program, and foster collaborative interactions with other faculty. Teaching in the professional and graduate programs of the College of Pharmacy is required. Candidates should send a curriculum vitae, a brief research plan, and the names of three references to:

> Dr. John M. Pezzuto Department of Medicinal Chemistry and Pharmacognosy University of Illinois at Chicago College of Pharmacy (M/C 781) 833 South Wood Street Chicago, IL 60612-7231

Review of applications will begin May 1, 1997, and continue until suitable candidates are identified. *The University of Illinois is an Equal Opportunity/Affirmative Action Employer.*

INSTRUCTOR DEPARTMENT OF ZOOLOGY OREGON STATE UNIVERSITY

A two-year fixed-term appointment (with annual renewals at the discretion of the Department Chair) to teach and coordinate courses in human anatomy and physiology for the 1997–1998 academic year. A Ph.D. is required. Applicants should have teaching and research experience in appropriate disciplines, and an interest in computer-aided instruction. Salary: \$36,000 annually. Send cover letter, résumé, and three letters of reference to: Physiology Search Committee, Department of Zoology, Oregon State University, Corvallis, OR 97331-2914. File review will start on May 7, 1997 and continue until the position is filled.

Oregon State University is an Affirmative Action/Equal Opportunity Employer and has a policy of being responsive to needs of dual-career couples.

CTI, a leader in the discovery and development of tissue engineered organ replacements, has an exceptional opportunity for a proven **DIRECTOR OF RESEARCH**.

The successful candidate will be distinguished by insightful knowledge of medical applications for tissue engineering, possess excellent communication and interpersonal skills, have an established track record of scientific accomplishments, and experience in a supervisory role.

For immediate consideration, contact: Ms. Hollingsworth; Telephone: 310-657-8444.

Tenure-Track Positions Assistant Professor Equivalent

Clinical Neurologist/Researcher in Neuroimmunology

The Neuroimmunology Branch invites applicants with a strong research background in neuroimmunology and clinical neurology to apply. Preference will be given to individuals with experience and evidence indicating their ability to establish an independent research program in the areas of cellular or molecular immunology and in clinical research in multiple sclerosis. Dr. Henry McFarland is chief of the Neuroimmunology Branch. The candidate is expected to establish an independent laboratory research program and to participate in and initiate clinical research directed at studying the cause and treatment of multiple sclerosis. Applicants should have an MD degree, completed a residency training program in neurology, a strong publication record, and demonstrated potential for imaginative research. Salary will be commensurate with the qualifications and experience of the candidate. Send applications postmarked by May 23, 1997 to: Claudia Palumbo, NINDS Personnel Office (OE-125), Building 31, Room 8A23, 31 CENTER DR MSC 2450, BETHESDA MD 20892-2450.

Neuroepidemiologist

The Epidemiology, Demography, and Biometry Program (EDBP) in the NIA, seeks an experienced scientific investigator with expertise in the field of neuroepidemiology. The individual will be provided personnel and resources to carry out scientific research in the field of epidemiology. Primary responsibilities include the design of epidemiologic studies; oversight of ongoing studies in the

EDBP; analysis of large cross-sectional and longitudinal epidemiologic data sets; and dissemination of research findings to the scientific community through published papers and talks at scientific meetings. Candidates must have an MD or PhD or equivalent training in neuroscience, neurology, and epidemiology and expertise in both the epidemiology of age-associated diseases and in longitudinal research methods. Tenure-track applicants must be U.S. citizens or permanent residents. Send applications postmarked by June 2, 1997 to: Holly Watkins, NIA Personnel Office (OE-125), Building 31, Room 2C02, 31 CENTER DR MSC 2292, BETHESDA MD 20892-2292.

To Apply

Please send a cover letter, *curriculum vitae*, bibliography, a one- to two- page statement of research interests and goals, and selected publications to the address listed with each position. In addition, please arrange to have letters of recommendation sent from three references who can provide an evaluation of your professional qualifications.

New WWW Site

Visit the new NIH Office of Education web site listing tenure-track positions, postdoctoral positions, and much more. Converse by e-mail with NIH investigators and apply electronically. Find us at http://helix.nih.gov:8001/oe





Office Of Education http://helix.nih.gov:8001/0e

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NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION NATIONAL LIBRARY OF MEDICINE NATIONAL INSTITUTES OF HEALTH DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE RESEARCH BIOLOGIST - GS-401-13

The Computational Biology Branch of the National Center for Biotechnology Information seeks a Taxonomist/Computational Biologist to maintain a taxonomy database and perform research in the field of molecular evolution. Applications are invited from researchers having an M.D. or Ph.D. degree with significant years of postdoctoral experience. Applicants should have extensive knowledge of the ultrastructure, phylogeny, taxonomy, and classification of unicellular eukaryotes and viruses. The position requires experience in database design, UNIX and PERL programming and the ability to develop and implement WWW pages. U.S. Citizenship is required. The salary will be in the range of \$51,000 to \$60,000 per year, depending on experience. Applications will be accepted if postmarked by 5/15/97.

For further information please contact **Dr. David Landsman** at (301) 496-2475. Candidates should send applications including a curriculum vitae, bibliography, and the names, addresses, and telephone numbers of three referees directly to:

Chair Search Committee David Landsman, Ph.D. National Center for Biotechnology Information National Library of Medicine NIH, Building 38A, Room 8N805 Bethesda, MD 20894 USA

Selection for this position will be based solely on merit, with no discrimination for non-merit reasons such as race, color, religion, sex, national origin, politics, marital status, physical or mental handicap, age, or membership or non-membership in an employee organization.

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Opportunities in DNA Sequencing National Institutes of Health

Several new programs involving large-scale DNA sequencing are being established at the National Institutes of Health (NIH).

We are seeking individuals to serve in leadership roles within these new research programs. Exciting positions in newly-created groups responsible for sequence production and bioinformatics are available. Candidates should possess a PhD, MD, and/or MS degree. At least one year of experience in automated DNA sequencing and/or computational analysis of sequence data is required.

Please send a letter, CV, and the names of three references to:

Dr. Eric Green, National Institutes of Health, 49 Convent Drive, Room 2A-08, MSC 4431, Bethesda, Maryland 20892-4431

The NIII is an Equal Opportunity Employer and applications by women and minorities are strongly encouraged.


The Science of Agricultural Genetics

RESEARCH ASSOCIATE — PROTEIN ENGINEERING Enabling Technology (Job #ET-708)

We are looking for a highly motivated individual who will be primarily responsible for recombinant expression/purification of proteins generated through ongoing mutagenesis experiments and will also provide general protein purification support. The lab is also equipped with an Applied Biosystems peptide synthesizer and the selected candidate should be prepared to acquire expertise in peptide synthesis as and when necessary. The qualified candidate should possess a strong background in protein biochemistry/molecular biology and have relevant experience in recombinant protein expression using E. coli, yeast and/or baculovirus systems. This includes subcloning into expression vectors and an understanding of parameters affecting protein solubility and folding. Experience in conventional and HPLC based protein purification schemes is a must and familiarity with immunochemical techniques is highly desirable. Strong computer skills desired in standard office software and in relevant gene analysis software. The candidate should also possess strong integrity, excellent communication/ interpersonal skills and be a strong team player. EDUCATION/EXPERIENCE: MS degree or equivalent in biochemistry or a BS degree plus 2 vears of directly related experience in techniques for recombinant protein expression/purification.

Pioneer Hi-Bred International, Inc. offers an opportunity to interact among hundreds of scientists with diverse backgrounds. We offer competitive salaries and excellent, comprehensive benefits. 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 cover letter and current resume, indicating job number, by May 2, 1997 to: Pioneer Hi-Bred International, Inc., Attn: PERSONNEL (Job #ET-708), P.O. Box 1004, Johnston, IA 50131-1004. 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 cropproducing continent

in the world. At our headquarters in Des Moines, Iowa,

we're adding to our Research team.



INTERNATIONAL, INC An Equal Opportunity Employer

DIRECTOR, DIVISION OF VIRAL PRODUCTS

The Food and Drug Administration is recruiting for the Director, Division of Viral Products, Office of Vaccines Research and Review in the Center for Biologics Evaluation and Research located in Bethesda, Maryland. The Director is responsible for managing a staff of approximately 70 scientists and support staff in assuring the safety and effectiveness of vaccines used in the prevention of viral diseases. Applicants must have experience in managing a broad scientific research or regulatory program; a demonstrated ability to deal effectively with high level governmental officials, the scientific and academic communities, medical and healthrelated organizations, representatives of the regulated industry and others; and the ability to implement equal employment opportunity programs. An M.D. degree with subsequent training in virology and/or infectious diseases or professional experience or directly related postgraduate education in virology or related disciplines and national/international reputation is required. QUALIFICATIONS: U.S. Citizenship is required. PHYSICIAN Applicants must have a Doctor of Medicine or equivalent degree from an accredited institution and additional clinical and/or research training. Graduates of foreign medical schools must submit a copy of their permanent Education Commission of Foreign Medical Graduates (ECFMG) certificates. SCIENTIST (other than M.D.) applicants must have a degree in microbiology, immunology, biochemistry, molecular biology, cellular biology, or related field and additional research training. SALARY: PHYSICIAN Salary range for civil service positions at the GS-15 level is \$75,935 to \$98,714 per annum. In addition, physician may also be eligible for a Physicians Comparability Allowance up to \$20,000 per annum OR a Physician Special Pay up to \$148,400 based on experience, qualification, and medical specialty. SCIENTIST (other than $\hat{M}.D.$) Civil Service salary range for the GS-15 is \$75,935 to \$98,714 per annum. Scientists may be eligible for the Senior Biomedical Research Service (SBRS) which pays up to maximum of \$148,400. Positions may be filled by appointment in the U.S. Public Health Service Commissioned Corps with commensurable salary and benefits. HOW TO APPLY-CALL: Melanie Whelan at (301) 827-0655 for instructions on submitting proper documentation. All interested applicants must contact Ms. Whelan no later than June 1, 1997.

FDA is an equal opportunity employer and has a smoke free environment.

SENIOR TOXICOLOGIST

Battelle, a world leader in the development, application and management of evolving and state-of-the-art technologies, is seeking an experienced Toxicologist to join the diverse and dynamic team in its Pharmaceutical and Product Development Division.

This position requires a Ph.D. /D.V.M. /M.D. or doctoral equivalent and at least ten years' postgraduate experience in pulmonary drug delivery and respiratory toxicology, with emphasis on pharmaceutical drug development. Excellent oral and written communications, interpersonal, organizational and leadership skills are also required. Certification by the American Board of Toxicology plus Study Director experience in a pharmaceutical company or contract laboratory, and experience with the preparation of INDAs are highly desired.

Battelle offers competitive salaries and a comprehensive package of benefits, including relocation and opportunities for professional development. Please send your resume to: **Battelle, Dept. #N84, 505 King Avenue, Columbus, OH 43201-2693**. Battelle is an Equal Opportunity/Affirmative Action Employer M/F/D/V.



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Our continued growth has created openings for professionals in the following areas:



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Within the Johnson & Johnson family of companies, there are more opportunities than ever before to become part of a world-class research environment. Here, you can participate in leading-edge scientific research and learn from scientists at various operating companies throughout central New Jersey and the Philadelphia area. If you are ready to explore a new opportunity with a leader, consider taking on one of the following assignments:

VASCULAR RESEARCH

The R. W. Johnson Pharmaceutical Research Institute Spring House, PA Area

As an integral member of the Vascular Research Team, you will conduct research involving a unique class of G-protein coupled receptors that are activated by a proteolytic mechanism.

To qualify, you must possess a PhD with a strong background in biochemistry and cell biology. Molecular biology skills are highly desirable. Experience with protein expression and purification, receptor binding, cell signaling, enzyme kinetics and computer proficiency is also important. This is a two-year postdoctoral assignment. **Dept. 1296**.

SKIN BIOLOGY RESEARCH

Johnson & Johnson Consumer Products Worldwide Princeton, NJ Area

As a key member of a team of other postdoctoral and senior scientists investigating the molecular biological basis of skin therapeutics and disease, you will be challenged to clone and investigate the expression, in skin, of the mRNA encoding an enzyme isoform shown to synthesize low molecular weight molecules involved in mesenchymal/epithelial interactions regulating skin differentiation and aging.

To qualify, you must have a recently earned PhD in the biological sciences, preferably in Molecular Biology, with a background in Developmental Biology. Experience in DNA cloning techniques is essential and skills in the generation of antibodies and cell biology are preferred. This is a two-year postdoctoral position. Dept. 1297.

We offer a competitive salary, comprehensive benefits and the opportunity to learn from and work alongside some of the brightest minds in the industry. For consideration, send a scannable copy of your CV to: Dept. # from above for position of interest, Johnson & Johnson Recruiting, P.O. Box 16597, New Brunswick, NJ 08906-6597. We are an equal opportunity employer and support diversity in the workplace.

Johnson & Johnson

A Recipient of the 1996 National Medal of Technology and New Jersey's Most Admired Company THE WORLD DEPENDS ON THE Commitment Of Our Scientists. It takes world-class employees to make a world-class company.

At Abbott Laboratories, our professionals are researching, developing and marketing the health care products that will make a significant impact on generations to come. We are currently seeking the following professionals to join our team.

SENIOR SCIENTIST

We are seeking an experienced *in vivo* pharmacokineticist to evaluate the pharmacokinetic characteristics and anti-tumor efficacy of pre-clinical compounds in an anti-cancer program. In this position, you will work closely with several project teams taking a range of approaches to analyze and optimize pharmacologic properties of anti-tumor agents. You will provide key data and input for recommending candidates for clinical studies.

The ideal candidate will have a Ph.D. and 3-5 years of pre-clinical experience in pharmacokinetic analysis and cancer biology. A strong background in analytical chemistry and experience with HPLC analysis is highly desirable. Knowledge of fundamental pharmacokinetic principles and practices, *in vitro* metabolism and *ex vivo* assay development are essential, as are excellent leadership and verbal and written communication skills. **(Job #97-LAM-0508)**

MOLECULAR BIOLOGIST

The metastasis and angiogenesis group is seeking a Molecular Biologist to join its efforts in combating cancer. This group is dedicated to the elucidation and study of novel ways to inhibit the growth and spread of cancerous tissue in humans. The cancer research area has a broad portfolio of potential anti-cancer agents and seeks a scientist to work within this portfolio, as well as to study new potential targets. You will lead efforts to identify, clone, express and study targets important in the progression of cancer. This is an expanding drug discovery effort and you can look forward to a rewarding career at Abbott.

We are seeking a Molecular Biologist with a Ph.D. and several years of post-doctoral and cancer research experience. The ability to communicate effectively within the cancer biology group and other groups including chemistry, high throughput screening, structural biology and genomics is necessary. Problem-solving skills are a must. Experience in protein expression, cell biology and signal transduction is a plus. **(Job #97–LAM–0573)**

With 52,000 employees worldwide and more than \$11 billion in annual sales, we've established ourselves as a respected global business and innovative leader in the changing health care industry. For consideration, please send your resume with salary history to: **Abbott Laboratories, Job #(please select), D583, AP9A(LL), 100 Abbott Park Rd., Abbott Park, IL 60064.** Abbott is an Affirmative Action Employer/ Smoke-Free Environment.





At Perkin-Elmer, our business development group explores new ways to improve the human condition. How so? By developing leading life sciences systems that significantly improve the productivity of analyses in both genetic research and applied markets. And as we focus on leveraging strong, traditional markets and entering new ones, we're searching for more professionals who have the talent and drive to assist us in improving the quality of life for all. So join us, and discover the tools you need to enhance your career.

Business Development In Genetics Molecular Biologist/ Genetic Scientist

Major New York Stock Exchange life science systems corporation, located in Fairfield County, Connecticut, is seeking an experienced Molecular Biologist or Genetic Scientist with a strong interest in business development to assist the Chief Technology Officer/Sr. VP for Business Development with auditing portfolios of biotechnology companies and evaluating technologies with a view toward broadening the scope of the company's biotechnology activities. The ultimate goal will be to invest aggressively in strategic growth segments of the life science market.

Ideal candidate will have an advanced degree in the Biological Sciences (Ph.D. preferred) and a minimum of 5 years' experience in a corporate or university research environment. Prior experience with analysis of commercial application of biotechnology a plus. Strong written and oral communication and analytical skills are critical.

We offer a competitive salary commensurate with experience, bonus and stock option eligibility, excellent benefits, and a supportive, growthoriented work environment. Qualified candidates should forward resumes to: Ms. Irene A. Seifer, Director, Corporate Human Resources, 761 Main Avenue, Norwalk, CT 06859-0277; fax: (203) 761-5387; or e-mail: seiferia@perkin-elmer.com.

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PERKIN ELMER

Manager, Light Imaging Facility National Institute of Neurological Disorders and Stroke National Institutes of Health

The Division of Intramural Research of the National Institute of Neurological Disorders and Strokes (NINDS) invites nominations and applications for the position of Manager of a Light Microscopy Imaging Facility. The appli-cant should have a Ph.D. degree in either Neuroscience or Cell Biology, extensive experi-ence using Laser Scanning Confocal Microscopy, Digital Imaging, Video Microscopy and familiarity with Deconvolution Imaging Technology. Previous experience managing a Light Imaging Facility serving the needs of faculty, postdoctoral fellows, and students is preferred, but not required. The applicant must be highly motivated and capable of independently learning new Imaging technologies. A major responsibility will be to maintain the equipment in the Facility and to teach techniques and the use of equipment to researchers. The position will predominately be in a service mode with a modest opportunity for collaborative research. This is a GS-13 position in the Federal Service, and the salary between \$54 - 70,000 will be commensurate with the qualifications and experience of the candidate. U.S. Citizenship is required. Applicants should send curriculum vitae, bibliography, statement of career directions and three letters of reference to: Dr. Harold Gainer, c/o Claudia Palumbo, Building 31, Room 8A23, NINDS, NIH, 31 Center Drive, MSC 2540, Bethesda, Maryland 20892.

Applications should be postmarked by June 30, 1997.

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ACHIEVEMENTS

By merging pharmaceutical science with information technology, Eli Lilly and Company is creating unprecedented opportunities to better meet the global population's health care needs. And achieving all this, is a dedicated team of professionals. Their talents and skills in a variety of arenas, keep our \$6+ billion company on the cutting edge.

Medical Science Writer

Eli Lilly and Company is seeking medical writing and editing candidates for therapeutic area publications teams. Primary responsibilities include working onsite with multiple project teams to plan publication strategies; write, edit, and review scientific manuscripts, abstracts, and poster presentations; coordinate review and approval processes; and coordinate freelance writing projects. Qualified candidates will have an educational background in science; excellent teamwork, leadership, and selfmanagement skills; and experience planning and writing scientific publications. A Bachelor's degree is required, and a graduate degree is preferred. At least two years previous experience as a medical writer interpreting clinical data and a working knowledge of clinical trial development and product registration guideline are preferred. We offer a competitive salary and excellent benefits, including tuition reimbursement

Interested qualified candidates should send a cover letter, a resume, and at least three writing samples to: Deborah Hildebrand, Department MW597, Corporate Recruiting, Lilly Corporate Center, Indianapolis, IN 46285.



We are an equal opportunity employer dedicated to diversity and the strength it brings to the workplace.

For other job opportunities, please access our Job Bank at http://www.lilly.com or phone our Jobline 1-800-892-9121.

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RESEARCH INVESTIGATOR/ SENIOR RESEARCH INVESTIGATOR

Bristol-Myers Squibb, a leading researcher, marketer and manufacturer of pharmaceutical products, has an opening in the Buffalo, New York area for a Research Investigator/Senior Research Investigator, in our Pharmaceutical Research Institute, Drug Discovery group.

We seek a highly motivated Ph.D. Cell Biologist or Animal Biologist to establish a group in our ongoing hormone receptor program. The successful candidate will have experience in the techniques of modern cellular or animal biology including cell culture, monoclonal antibody production and use in staining, protein biochemistry and familiarity with modern DNA technology especially in situ hybridization. Experience in translating this expertise into animal models of disease states is a definite plus. This position will require supervision of a junior scientist. The successful candidate will have good oral and written communication skills. Prior supervisory experience is helpful but not required.

Bristol-Myers Squibb offers a very attractive compensation and benefits package as well as potential for personal and professional growth. Please submit resume and salary requirements in complete confidence to:

> Bristol-Myers Squibb Attn: Manager Human Resources 100 Forest Avenue Buffalo, New York 14213 No phone calls please.

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Today 3TC[™]/EPIVIR[™] is the cornerstone of HIV combination therapy. And BioChem Pharma continues to give good ideas room to move, because we've vaccinated ourselves against red tape.

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As one of the world's leading biopharmaceutical companies, BioChem Pharma has the financial strength to fund ongoing R&D in all three areas of our business: therapeutics, vaccines and diagnostics.

The company is research-driven and scientists play a key role in senior management. We have a strong pipeline with promising candidates including antiviral and anticancer therapeutics, and recombinant vaccines, in all phases of development.

We're based in Montreal, Canada's leading center for biomedical research, and have operations worldwide.



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Paul Nguyen-Ba, Ph.D., a co-discoverer of 3TC[™]/EPIVIR[™], remains a key member of our antiviral team.

BIOCHEM PHARMA THERAPEUTICS - VACCINES - DIAGNOSTICS Cadus Pharmaceutical Corporation, a leader in the discovery of drugs which regulate G protein-mediated signaling pathways, is expanding its discovery programs based upon its unique proprietary yeast and mammalian cell based screening technologies and has openings for motivated scientists in the following areas:

MOLECULAR/YEAST BIOLOGY

BS/MS scientists with at least 3 years of experience or Ph.D. scientists with a minimum of three years post doctoral research experience in molecular biology for a project expressing mammalian signal transduction proteins in yeast. Background in cellular and molecular biology or biochemistry is required. Experience with yeast is a plus and experience in gene cloning and protein analysis is preferred. **CODE: S-MYB**

EXPRESSION CLONING

BS/MS with minimum of 2 years experience or Ph.D. with a minimum of 3 years experience in molecular biology and gene cloning. Strong molecular biology skills and cell culture techniques are required. Experience in cDNA library construction and screening or experience in Xenopus oocyte expression system is essential. Individuals in these positions will join expression cloning group involving the cloning of G protein-coupled receptor genes. **CODE: S-EC**

MAMMALIAN CELL BIOLOGY

BS/MS with minimum of 2 years experience or Ph.D. with a minimum of 3 years post doctoral research in mammalian cell biology and gene expression to join Cadus's Assay Development Group. Expertise with mammalian cell culture, signal transduction analysis and strong molecular biology skills are essential. These individuals will be working with projects involving novel whole cell assay systems for G protein-coupled receptor signaling. **CODE: S-M**

BIOCHEMICAL PHARMACOLOGY

BS/MS degree in pharmacology and biochemistry or Ph.D. with a minimum of 2 years post doctoral research and significant experience in receptor binding and second messenger system assays. Experience with yeast and/or mammalian cell culture techniques, peptide receptology and protein biochemistry is desirable. **CODE: S-BC**

Cadus offers competitive salaries and benefits as well as excellent opportunity for career growth in a stimulating collaborative environment. Send CV and List of References, indicating job code, to: Cadus Pharmaceutical Corporation, 777 Old Saw Mill River Road, Tarrytown, NY 10591-6705; or e-mail at: hr@cadus.com. Cadus is an Equal Opportunity Employer.





United States Department of Agriculture Agricultural Research Service Research Entomologist

The Office of International Research Programs, Agricultural Research Service, USDA, is seeking applicants for the position of Research Entomologist at the European Biological Control Laboratory (EBCL), Montpellier, France. The incumbent conducts research on parasites and predators of several insect pests. The mission is to conduct laboratory and field studies on natural enemies of major agricultural insect pests which have been accidentally introduced into North America. Research is conducted on the biology and ecology of these natural enemies to ensure their safe and efficient establishment in the U.S., and to provide natural enemies and new information on their biology to cooperating scientists. The incumbent develops cooperative research programs with domestic and foreign institutions. Candidates must be U.S. citizens. This appointment is a permanent position, with a tour of duty in France for a minimum of 2 years with subsequent assignment in the U.S.

Candidates must meet education and experience requirements. Please contact the Human Resources Division listed below for specific requirements. Salary commensurate with experience (\$42,890 to \$78,351), plus housing and cost of living allowances in France. For information contact Dr. Rick Bennett (301) 504-5605, fax: (301)-504-5298, or email: hmp@ars.usda.gov, or Dr. Lloyd Knutson, in Franceat (33) 4.67.04.56.00, fax: (33) 4.67.04.56.20, or email: ebcl@cirad.fr. For an application package with complete qualification requirements and instructions, contact the Human Resources Division, (301) 344-4638, or (301) 344-2288 and request vacancy announcement number ARS-D7B-106, Research Entomologist, GS-414-12/13/14. Applications must be marked ARS-D7B-106 and postmarked by May 27, 1997.

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MOLECULAR SIMULATIONS INC. is the premier international supplier of molecular simulation software serving 3,500 sites at leading companies in the pharmaceutical, biotech, food, agrochemical, petrochemical, materials and engineering fields. We are currently a privately-held \$50MM company with an impressive track record of growth. Join us as we strive to give our customers enhanced ability to improve their R&D processes through state-of-the-art application of molecular science. We currently have the following positions available:

LEAD ENGINEER, CHEMINFORMATICS - SAN DIEGO, CA

The position will be responsible for designing products within MSI's ChemInformatics strategy. The candidate will build an infrastructure to manage diverse data sources for chemical, biological, toxicological, and screening data; and will contribute to Web-based applications that interface to the cheminformatics infrastructure. Requires an MS/PhD in CS/EE or Chemistry and 4+ years' with applications and interfaces for relational databases (Oracle preferably). Strong object-oriented design and development skills are required. Experience developing database applications in the chemical or pharmaceutical area is desired; knowledge of object-oriented databases is a plus.

PRODUCT MANAGER, WEB PRODUCTS - SAN DIEGO, CA

This experienced marketing manager will play a major role in taking MSI's new Webbased and native desktop chemical modeling products to market, and in developing our long term strategy for Web-based software applications. Responsibilities will cover all aspects of the marketing mix. These products exploit the latest Web technology to deliver sophisticated modeling tools to research scientists using a standard Web browser interface. Experience of marketing high-volume desktop scientific software products will be required in order to drive the productization of WebLab Viewer+, MSI's brand new molecular visualization tool which enables chemical information and research results to be shared by scientists on the company Intranet and the Internet.

We offer highly competitive compensation and benefits programs and are a EOE/AA employer. Interested candidates should submit their resumes to: Michael Kearnes, Sr. Corporate Recruiter, at MSI, 9685 Scranton Rd, San Diego, CA 92121; Fax (619) 458-0136; E-mail: mkearnes@msi.com





Postdoctoral Position available at St. Jude Children's Research Hospital to study the use of a disabled herpes viral vector for gene therapy of inherited immunodeficiencies. The vector will be used to introduce enzymatic machinery to enhance homologous recombination in hematopoietic stem cells. Please send curriculum vitae, statement of research interests, and the names, addresses and phone numbers of three references to Dr. M. E. Conley, Department of Immunology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105.

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Synthetic Organic Rosenstiel Basic Medical Sciences Research Center Brandeis University

Available Immediately. Synthesis, purification, and characterization of novel inhibitors. Requires a strong background in medicinal or organic synthetic chemistry. The successful candidate will work closely with biochemists, X-ray crystallographers, and computational chemists in a focused and energetic interdisciplinary environment devoted to new drug discovery using a combination of rational design and combinatorial chemistry techniques. A CV and two letters of recommendation should be sent to: Prof. Dagmar Ringe, Rosenstiel Basic Medical Sciences Center, Brandeis University, 415 South Street, Mailstop 029, Waltham, Massachusetts 02254-9110.



AIDS Researcher for Combined Pediatric/Adult HIV Research Program The HIV and AIDS Malignancy Branch (HAMB), NCI, is searching for a tenure-track or tenured investigator to conduct translational research on the therapy of HIV infection. The research should have at least some applicability to the treatment of children with HIV infection. HAMB encompasses both an active clinical program in children and adults with HIV infection and HIV-related malignancies and a laboratory effort. Current areas of research focus include HIV protease, the pathogenesis of HIV disease, and Kaposi's sarcoma-associated herpesvirus (KSHV/ HHV-8). It is anticipated that the investigator will establish an independent research program that will be targeted to the development of new therapeutic interventions for HIV infection and/or on understanding the interactions between therapeutic interventions and the pathogenesis of HIV. This program should augment the clinical research effort of the Branch. Candidates for this position must have an M.D. or an M.D./Ph.D. and strong research credentials. Applicants should submit a curriculum vitae including bibliography, a statement of research interests, a two-page outline of the proposed research program, and have three references sent to: Dr. David L. Nelson, Chairman Search Committee, 10 CENTER DRIVE MSC 1374, Building 10, Rm. 4N115, NIH, Bethesda, MD 20892-1374 by close of business June 16, 1997. NIH is an Equal Opportunity Employer.

Pioneer Hi-Bred International, Inc., the world's largest developer, producer and marketer of agricultural seed, currently has openings at its Johnston, IA facility for the following professionals

R&D COMPUTER SUPPORT MANAGER

This position will be part of a team providing computer support for the Trait and Technology Development group in our Research and Product Development division. The selected candidate will work closely with scientists and information management professionals to identify information management needs, suggest solutions, and develop, implement and support information management systems.

Qualifications include a Ph.D., or the equivalent, in molecular biology, biochemistry, molecular genetics, or a related field, with experience in computer science or mathematics. Plant breeding or agronomy course work and experience in database software, client-server systems, and web development and delivery tools is desirable. Excellent communication skills are essential. (Job #97-0053)

TECHNOLOGY INTEGRATION PROJECT LEADER (Laboratory Emphasis)

As part of a company-wide technology integration team, this individual will be responsible for the design, development, implementation and support of materials processing and data acquisition systems in a laboratory environment. Responsibilities will include hands-on technical support for multiple projects, and providing direction on potential process improvements.

Qualifications include at least a BS, with an MS preferred, and 3-5 years of practical experience in a biological, and/or engineering area with a heavy emphasis in instrumentation, automation, and programming. The ideal candidate will be familiar with biological laboratory processes and instrumentation, automation technologies, computer-assisted data acquisition, sensory systems, instrument interfacing, robotics systems, and image analysis. Good organization, communication and interpersonal abilities are necessary as well as a flair for innovation. (Job #97-0056)

We offer a competitive salary, comprehensive benefits including 401(k) plan and tuition reimbursement and opportunity for professional development. For confidential consideration, please send your resume and a cover letter by May 2, 1997, indicating job number, to: Employment Services, Pioneer Hi-Bred International, Inc., 4445 Corporate Drive-Box 65000, West Des Moines, IA 50265-5000.

> Pioneer Hi-Bred is an Equal Opportunity Employer M/F/D/V.

Scannable resumes preferred.



PIONEER HI-BRED INTERNATIONAL, INC.

TOXICOLOGISTS

Battelle, a world leader in the development, application and management of evolving and state-ofthe-art technologies, is seeking experienced Toxicologists to join our team in the Pharmaceutical Product Development Division. These positions are located in Columbus, Ohio and Richland, Washington.

The positions require a Ph.D./D.V.M./M.D. or equivalent with at least five years postgraduate experience. Emphasis is on toxicology support to pharmaceutical drug development. Excellent verbal, written and interpersonal communication skills are required. Pharmaceutical or Biotechnology industry experience, American Board of Toxicology Diplomat or eligibility in the near future, and study director experience in the pharmaceutical/biotechnology industry or a contract laboratory desired.

Battelle offers competitive salaries, comprehensive benefits and opportunities for professional development. Please send a resume and cover letter to: Battelle, Dept. #N83, 505 King Avenue, Columbus, OH 43201-2693. Battelle is an Equal Opportunity/Affirmative Action Employer M/F/D/V.



MOLECULAR PHARMACOLOGIST/BIOLOGIST

SmithKline Beecham, a world renowned innovator in consumer healthcare, pharmaceutical R&D and genetic medicine, continues to experience outstanding success. As a result, we seek to add a Molecular Pharmacologist/Biologist to our industryleading team.

This motivated scientist will assist in the planning and conducting of laboratory experiments in molecular and cellular biology/pharmacology directed towards identifying novel molecular mechanisms involved in the pathogenesis of a variety of cardio-vascular disorders. Experience with cell culture, standard recombinant DNA technology (e.g. Northern/Southern analysis, mammalian cell transfection and expression cloning, RT-PCR, mRNA differential display, *in situ* localization) and solid computer skills/proficiency in bioinformatics is expected. Practical experience in the identification and characterization of novel protein/protein interactions using phage display and/or yeast dihybrid systems would be desirable. Qualified candidates will possess a BS/MS in Biomedical Sciences with 3+ years of laboratory experience. A working knowledge of cardiovascular pharmacology or inflammatory cell (T-cell, monocyte, macrophage) function is desirable but not essential. Located in our technologically advanced research facility in suburban Philadelphia, SmithKline Beecham offers an exceptional compensation/benefits/relocation package, and a stimulating work environment in which to grow and excel. For confidential consid-eration, please send resume and salary requirements to: SmithKline Beecham Pharmaceuticals, Job Code H6-0147, P.O. Box 2645, Bala Cynwyd, PA 19004. *Indicating Job Code is essential* for more information on SmithKline Beecham, visit our Web site at http://www.sb.com. We are an Equal Opportunity Employer, M/F/D/V. This motivated scientist will assist in the planning and



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Pharmaceutical Division

Biological Products

PROCESS DEVELOPMENT SCIENTISTS

- In the highly competitive global pharmaceutical marketplace, there are many "Bayer Facts" which distinguish us as a leader: To name a few, we are part of Bayer Corporation, a \$26.8 billion international diversified organization and one of the most broadly-based healthcare companies in the U.S. Our facility located near Raleigh, NC is expanding the Process Technology Group to meet the needs of our expanding **Biological Products** business. We have three openings for qualified development scientists.
- This position will provide the scientific and technical support to successfully scale-up and transfer new processes for the purification of therapeutic plasma proteins. You will be responsible for lyophilization cycle development of new and existing final products as well as intermediates, using bench, pilot and manufacturing scale freeze dryers. You will also have responsibility for all Technology freeze drying equipment. We require a Ph.D/M.S. degree in Chemical Engineering or related discipline with a minimum of one to two years of industrial process development experience; or a B.S. in Chemical Engineering with a minimum of five years of industrial process development experience or equivalent. Prefer scale-up experience and working knowledge of protein chemistry. Good communication skills, supervisory experience, technical writing skills, computer literacy, and the versatility to work within goal-oriented teams while managing multiple projects are essential. RESPONSE CODE 97-02
- This position will provide the scientific and technical support to successfully scale-up and transfer new processes for the purification of therapeutic plasma proteins. Inidividual unit operations including chromatography, ultrafiltration, and virus inactivation will be characterized and scaled-up. We require a Ph.D/M.S. degree in Chemical Engineering minimum experience of two to four years in manufacturing, preferably in the pharmaceutical or biotechnology industries. Prefer scale-up experience and working knowledge of protein chemistry. Good communication skills, supervisory experience, technical writing skills, computer literacy, and the versatility to work within goal-oriented teams while managing multiple projects are essential. RESPONSE CODE 97-03
- This position will be part of an interdisciplinary team responsible for projects to support manufacturing. **Tasks will include process optimization, equipment selection, and troubleshooting.** Interactions will include manufacturing, engineering, quality assurance, research and development. We require a Ph.D/M.S. in Chemical Engineering and/or Biochemistry with a minimum of three years or relevant experience in the pharmaceutical or biotechnology industries. A working knowledge of protein chemistry is preferred. Familiarity with chromatography, filtration, and GMP/GLP regulations is expected. Must have strong oral and written communication skills. RESPONSE CODE 97-04
- …and there's one more fact. If you're ready to join us, there's no better time than now. For immediate consideration, please forward your resume (indicating response code) including salary history to: RF/Human Resources, Bayer Corporation, Pharmaceutical Division, PO. Box 507, Clayton, NC 27520. No agencies or phone calls please. For more information on Bayer, search: http://www.careermosaic.com/cm/bayer/ An Equal Opportunity Employer M/F/D/V. Bayer Corp. is committed to establishing and maintaining cultural diversity within our work environment.

VACANCY ANNOUNCEMENT RESEARCH ANIMAL PHYSIOLOGIST

The Growth Biology Laboratory (GBL), part of USDA's Agricultural Research Service in Beltsville, MD, has a Research Physiologist position vacancy, GS-12-14, with a corresponding starting salary of \$45,939 to \$64,555.

The research objective is to devise strategies to identify and quantify peripheral signal mechanisms affecting appetite in poultry and swine. Application of such knowledge is expected to improve voluntary feed consumption in improved genotypes or animals treated with metabolism-modifiers to exploit full genetic potential for lean tissue growth. Ultimately, practical approaches to increase voluntary appetite and partition of nutrients toward lean tissue growth is expected.

Duties:

- develop methods to quantify gene expression for peripheral tissue signal peptides affecting appetite.
- using conventional assay procedures, develop hormone assays for such peptide hormones and quantify response to specific treatment and stimuli.
- devise strategies to alter either gene activity or hormone recognition by higher neural centers.
- assess appetite perturbations with respect to the partitioning of nutrients between lean and fat tissue depots.

Requirements:

- Ph.D. in animal physiology or a related field is desirable.
- knowledge of molecular biology and metabolism of livestock species (exclusion factor for assessing basic eligibility).
- knowledge of protein synthesis and purification procedures.
- · skill in scientific writing.
- skill in cell culture procedures.

Send a resume, curriculum vitae, Optional Application for Federal Employment (OF-612), or SF-171 and a copy of college transcripts to the address below by June 1, 1997. USDA is an Equal Employment Opportunity employer. Minority and female candidates are encouraged to apply.

For information on the research program: Norman C. Steele, Research Leader, GBL, (301)504-8222, email steele@ggpl. arsusda.gov.For announcement and forms call: (301)344-4638. Mail resume: Attn. (D7B-99-AD19) no later than May 12,1997 to USDA-ARS, BAHQOB, 6305 Ivy Lane, Room 361, Greenbelt, MD 20770: R.T. Mazyek.

Staff Member

Work as Scientific Programmer/Analyst in the Life Sciences Division to develop, program, install, and test software to control a neutron protein crystallographic station and analyze protein data from a two-dimensional detector. The successful applicant will be required to work in a highly cooperative, interdisciplinary research environment. Documented experience in protein crystallographic computing, computer systems, including familiarity with VMS, Windows NT, UNIX, and networking protocols, and computer programming including FORTRAN, C++, and graphics applications. The applicant must have experience in computer control of diffraction equipment for structural biology with familiarity in instrumentation at synchrotron or neutron user facilities. Ability to document protocols in a timely and accurate manner. Ability to report scientific findings in a timely and accurate manner as demonstrated by publication in refereed scientific journals. Demonstrated effective oral communication skills. Ability to work in close collaboration with others, under pressure in a rapidly changing research environment.

Requires an MSC or Ph.D. in computer science, biophysics, or related field with a strong emphasis in crystallographic computing and at least 5 years' computing experience. Experience with VME, Silicon Graphics and Dec alpha computers with real time processes and data acquisition protocols is highly desirable. Familiarity with VxWorks and the IDL graphics language is an advantage. Job #972316-LS97038B

Technical Staff Member

Work as Project Manager in the Life Sciences Division to coor-dinate the fabrication and operation of a neutron protein crystallographic station. After completion of the project, serve as station manager and be responsible for the user program, user support, and the maintenance of the station. The successful applicant will be required to work in a highly cooperative, inter-disciplinary research environment. Day-to-day project management, execution, and coordination in collaboration with the principle investigator will be a major job responsibility. Documented experience in protein crystallography, neutron and/or synchrotron instrumentation, position sensitive detec-tors, computer systems including VMS, Windows NT, PDs and networking protocols, and computer programming, including FORTRAN, C++, and graphics applications. Ability to report scientific findings in a timely and accurate manner as demonstrated by publication in refereed scientific journals. Demonstrated effective oral communication skills. Ability to work in close collaboration with others, under pressure in a rapidly changing research environment.

Requies a Ph.D. in biophysics or related field with a strong emphasis in diffraction instrumentation and at least 5 years' independent research experience. Experience with neutron spectrometer design and consecution, including how to meet functional specifications, assigning tasks, and monitoring budgets and schedules. Experience in project management as demonstrated by ability to successfully build, lead and advise a research team. Job #972243-LS97038A

For consideration, please e-mail your resume and publication list to: jobs@lanl.gov; fax: (505) 665-1079; or mail to Human Resources Division, Los Alamos National Laboratory, Job #, MS P286, Los Alamos, NM 87545. Note: Appropriate Job # must be inserted. Explore our web page to learn more about Los Alamos National Laboratory: http://www.hr.lanl.gov EOE



CREATING SELECTIVE THERAPIES

TARGETING DISEASE AT THE SOURCE

La Jolla Pharmaceutical Company is emerging as the leader in targeting antibody-mediated diseases. Our long-term dedication to the discovery of treatments for autoimmune, inflammatory and allergic diseases is currently expanding in the development of therapeutics to treat myasthenia gravis and asthma. Our research offers the promise of minimal nonspecific effects on the immune system, while delivering selective therapies that target and eliminate disease at the source.

The following positions are part of interdisciplinary teams and require strong organizational, communication and interpersonal skills.

SENIOR PROCESS DEVELOPMENT CHEMIST

Requires PhD in organic chemistry or related field w/2+ yrs' process development exp; scale-up exp from laboratory to pilot plant. Prefer exp in biopolymers (DNA and peptides); knowledge of cGMPs, IND/NDA filing, & validation processes. Code: SPDC

RESEARCH SCIENTISTS - BIOCHEMISTRY

Requires PhD & 2+ yrs' exp in protein purification, state-of-the-art analytical instrumentation, ELISA, & tissue culture. Code: RSB

RESEARCH SCIENTISTS - IMMUNOLOGY

Requires PhD & 2+ yrs' exp in solid/liquid immunoassays using both direct & competitive binding approaches; isolation & identification of rare human/rodent cell populations; generating hybridomas & cloned cell lines; techniques of immunochemistry and *in situ* hybridization, fluorescence microscopy & flow cytometry; rodent models of disease & biostatistics. Code: RSI

RESEARCH SCIENTISTS - MOLECULAR BIOLOGY

Requires PhD & 2+ yrs' broad expertise in molecular biology. Code: RSMB

RESEARCH ASSOCIATE - SYNTHETIC ORGANIC CHEMIST

Requires MS/BS in chemistry w/laboratory exp in multi-step organic synthesis, chromatographic & spectroscopic techniques; strong background in synthetic organic chemistry, modern instrumentation & analytical techniques including NMR, IR & MS. Code: RASOC

BIOANALYTICAL SERVICE SUPERVISOR

Requires PhD in analytical chemistry/biochemistry; working knowledge of peptide synthesis & related instrumentation; strong instrumentation & separations background; ability to supervise associates in providing &/or characterizing synthetic materials to R&D personnel. Code: BSS

We are a dynamic company offering competitive salaries

XXX LJP

and benefits. Please send your resume to: La Jolla Pharmaceutical Co., Attn: SM/Code: (see above), 6455 Nancy Ridge Dr., San Diego, CA

92121. No phone calls, please. EOE.

The B Cell Company

POSITIONS OPEN

MYRIAD GENETICS, INC. SALT LAKE CITY, UTAH RESEARCH ASSOCIATES

Myriad Genetics is an innovative genomics company focused on the isolation of significant disease-causing genes. Our scientific achievements include elucidating the role of the p16 tumor suppressor gene in cancer and identifying genes involved in breast, ovarian and brain cancer. We currently have major programs in asthma, cancer, central nervous system disorders, coronary heart disease, diabetes, obesity, and osteoporosis. Expansion of our gene identification and gene characterization efforts provides a number of exciting opportunities for highly motivated individuals.

We are currently hiring **RESEARCH ASSOCIATES** to be part of a team that is developing and implementing high-throughput assays to understand gene function or part of a multidisciplinary team dedicated to mapping and cloning genes involved in human diseases. Requires an M.S. or B.S. degree and a minimum of two years of experience in molecular biology. Familiarity with molecular biology techniques is essential.

We offer an attractive compensation package and a stimulating, interactive research environment. Please mail or fax a cover letter, indicating position of interest, a complete résumé, and the names of three professional references to: Human Resources Department, Myriad Genetics, Inc., 320 Wakara Way, Salt Lake City, UT 84108. FAX: 801-584-3640. Equal. Opportunity Employer.

MYRIAD GENETICS, INC.

MOLECULAR/CELL BIOLOGIST ONCOLOGY ORTHOPAEDICS ORTHOPAEDIC DEPARTMENT University of Colorado

Ph.D. with demonstrated postdoctoral experience in nucleic acid methodology, specifically in the areas of genetic mapping, cloning, sequencing and gene expression. Seeking dedicated and enthusiastic individual to work Oncology Orthopaedics in the development of a new research program. Send curriculum vitae to: Scott D. Matthews, Department Administrator, Department of Orthopaedics, Campus Box - E203, 4701 East Ninth Avenue, Denver, CO 80262.

An Equal Opportunity/Affirmative Action Employer

RESEARCH SCIENTIST position available for the development of assays to determine the immune responses in patients undergoing therapy with cancer vaccines. Assays to be developed include ELISPOT and CTL. The position will be based in laboratories in the Washington, DC area and the individual will have interaction with experts working in this field nationwide. The successful candidate must have a Ph.D. in immunology or an associated field, capability to work independently, and a proven track record in the development of T cell assays. Please send curriculum vitae to: Dr. Lynn E. Spitler, Jenner Technologies, 1895 Mountain View Drive, Tiburon, CA 94920. FAX: 415-435-6851; Email: lspitler@hooked.net.

CANCER RESEARCH TRAINING CASE WESTERN RESERVE UNIVERSITY CANCER CENTER

Multidisciplinary NIH-funded cancer research training positions for individuals holding M.D., M.D./Ph.D., or Ph.D. degrees. Research focuses include: Apoptosis, Signal Transduction, Cell Adhesion, Cancer Genetics, Gene Therapy, and Tumor Immunology.

Send curriculum vitae, names of three references and statement of research interest to: Dr. Clark Distelhorst, School of Medicine (BRB), Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106-4937. Must be an American citizen or permanent resident. *Minorities and women are encouraged to apply.*

CANCER BIOLOGY RESEARCH ASSISTANT POSITION—MAYO MEDICAL SCHOOL, CLINIC AND FOUNDATION

Position immediately available to work on dysregulation of apoptosis as a mechanism of hepatobiliary oncogenesis. Expertise in cancer biology, molecular biology techniques, and cell culture is required. Please submit curriculum vitae and three letters of reference to: Nicholas F. LaRusso, M.D., Professor of Medicine and Biochemistry and Molecular Biology, Mayo Clinic, 200 First Street S.W., Rochester, MN 55905. Mayo Foundation is an Affirmative Action/Equal Opportunity Educator and Employer.



SIENA COLLEGE ASSISTANT PROFESSOR OF BIOLOGY

Siena College invites applications for a one-year SAB-BATICAL REPLACEMENT position with possibility of additional years. Candidates must have a Ph.D., and be a broadly trained biologist committed to teaching biology to freshman majors. A background in most research areas will be considered. Siena College is a four-year Liberal Arts college of 2400 students, located two miles north of Albany, New York. The Biology Department consists of 16 full-time faculty and 350 majors. Applications will be accepted until the position is filled. Interviews will begin on May 9, 1997. Please send letter of application, statement of teaching interest, résumé, and three letters of recommendation to: Joan Messler, Department of Biology, Siena College, Loudonville, NY 12211. Telephone: 518-783-2915. Siena College is an Equal Opportunity Employer and encourage applications from all qualified candidates including uvonen and minorities.

STAFF PHYSICIAN/RESEARCH ASSOCIATE

Immune Balance Technologies, a privately held biotech company specializing in the conception, development, and testing of immunologically active drugs/products, and Biodoron, a clinical medical facility specializing in the treatment of HIV, CFIDS, and B cell malignancies, announce an immediate, unexpected opening for the appropriate **PHYSICIAN/RESEARCHER**. This candidate should hold an M.D. or M.D./Ph.D. degree with clinical training in Internal Medicine and preferably, subspecialty training in hematology/oncology. The candidate should have research training through the fellowship level or beyond in the field(s) of immunoregulation, and/ or cell/molecular biology. Interest in both clinical and research aspects of immunoregulation in HIV/B cell malignancies is desirable. Florida license or eligible.

Please fax/send résumé/curriculum vitae to:

R. H. Keller, M.D., F.A.C.P., Director of Research Immune Balance Technology 5821 Hollywood, FL 33021 FAX: 954-981-9443

IBT/Biodoron are Equal Opportunity Employers.

Riverine Fish Ecologist, ASSOCIATE RESEARCH SCIENTIST, Illinois Natural History Survey, Havana, Illinois. Investigate riverine fish populations and natural and human factors that affect them, develop research proposals, conduct independent research, and report findings. Qualifications: Ph.D. in fish ecology or related field, excellent quantitative skills, and demonstrated aptitude for manipulating and analyzing large datasets. \$32,000 – \$38,000 plus benefits. Application review begins 27 May 1997. For application information contact: Ms. Jacqueline Sanders; Email: inhsjobs@mail.inhs.uiuc.edu; Telephone: 217-244-7790. Illinois Natural History. Survey is an Equal Employment Opportunity/Americans with Disabilities Act Employer.

PLANT TAXONOMIST. The Plant Pest Diagnostics Center of the California Department of Food and Agriculture is seeking a **SENIOR LEVEL** plant taxonomist to provide technical expertise to support State weed pest prevention programs; maintain catalogs and the State Herbarium; and conduct research related to the taxonomy of economically significant plants. Candidates will possess an M.S. and three years of related experience or Ph.D. and one year of related experience. Send résumé postmarked no later than May 2, 1997 to: Department of Food and Agriculture, 1200 N Street Room Al51, Sacramento, CA 94271-0001, Attn: J. Chambers.

POSTDOCTORAL POSITION to examine dopamine receptor expression in relationship to behavioral pathology in post-mortem brain from patients with Alzheimer's Disease and Major Depression. Methods will include autoradiography, *in situ* hybridization, and immunocytochemistry. Experience in neurosciences or molecular biology preferred. Send curriculum vitae and the names of three references to: Dr. Robert A. Sweet, University of Pittsburgh School of Medicine, Western Psychiatric Institute and Clinic, 3811 O'Hara Street, Pittsburgh, PA 15213. FAX: 412-624-3982. Email: sweetra@msx.upmc.edu.

POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITION at the Seattle Veterans Administration (affiliated with the University of Washington) for studies of peptide receptor structure-function relationship. Proficiency in molecular biology techniques, protein expression in mammalian cells, and experience with receptor binding studies preferred. U.S. citizenship required. Please contact: Toan Nguyen, M.D., GI Section (111 GI), Veterans Administration Medical Center, 1660 South Columbian, Seattle, WA 98108.

An Equal Opportunity Employer

DNA SYNTHESIS PRODUCTION MANAGER

Genosys Biotechnologies, Inc., a leading international producer of custom oligonucleotides and peptides, has an opening for an oligonucleotides **PRODUCTION MANAGER**. Applicants should have at least an M.D. degree in chemistry with three to five years management experience. Responsibilities include managing the daily operations and interfacing with customers on technical support issues. The ideal candidate will be self-motivated with strong organizational, communications, and analytical skills. Previous experience in DNA synthesis and HPLC is a requirement.

Please email your résumé to:

scollins@genosys.com

or send your résumé to:

S. Collins Human Resources Genosys Biotechnologies, Inc. 1442 Lake Front Circle, Suite 185 The Woodlands, TX 77380

Genosys Biotechnologies, Inc., is located in The Woodlands, Texas, and is an Equal Opportunity Employer.

> SOUTHEAST AQUATIC RESEARCH INSTITUTE

The Tennessee Aquarium is seeking a RESEARCH SCIENTIST I for the Southeast Aquatic Research Institute (SARI). SARI's mission is to carry out environmental research needed to ensure the health and long-term sustainability of regional natural resources. Qualifications for this position include: graduate degree in relevant biological discipline (Ph.D. preferred), familiarity with environmental issues concerning the Southeast, solid research skills (field and laboratory), ability to develop a research program supporting the Institute's mission and capable of attracting extramural funding, ability to supervise undergraduate interns and graduate students, ability to be innovative to enhance SARI's overall agenda. Applicants should submit a packet consisting of a curriculum vitae, list of three references (names, addresses, telephone numbers), and letter detailing research/career interests to: Tennessee Aquarium, Human Resources Department, P.O. Box 11048, Chattanooga, TN 37401-2048 by May 1, 1997. For further information, contact Jill Johnson, Telephone: 1-800-262-0695.

POSTDOCTORAL FELLOW CARDIOVASCULAR DIVISION ALBERT EINSTEIN COLLEGE OF MEDICINE

A position is available immediately to study intracellular mechanisms of endothelial growth and migration in cell culture models and angiogenesis *in vivo*. Requirements include M.D. and/or Ph.D. and experience in molecular and/or cell biology techniques. Send curriculum vitae, statement of current research, and names of three references, with addresses and telephone numbers to: J. Anthony Ware, M.D., Chief, Cardiovascular Division, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, Forchheimer Building G-42, 1300 Morris Park Avenue, Bronx, NY 10461. Telephone: 718.430-3087; FAX: 718-430-8989. An Equal Opportunity Employer.

CANCER RESEARCH

Gifted SCIENTISTS are sought to participate in the exploration and potential commercialization of advanced cancer therapies based on immunologic, anti-angiogenic, and other noncytotoxic mechanisms. Candidates should have a Ph.D. or M.D. with a strong research orientation and an exceptional record of academic and/or industrial accomplishment in a relevant discipline, but specific experience in cancer research, while preferred, is not essential. Candidates should send curriculum vitae to: Paul Cohen, 120 West 45th Street, 39th Floor, New York, NY 10036.

BIOINFORMATICS SCIENTIST AND COMPUTATIONAL BIOLOGIST

Pharmacia & Upjohn, Inc., is the world's ninth largest pharmaceutical company. We are involved in areas such as Oncology, Infectious, Metabolic, Inflammatory, and Central Nervous System Diseases to help people live longer and fuller lives. If you would like an opportunity to make a difference with Pharmacia & Upjohn contact us. We are expanding our bioinformatics capabilities to keep pace with strategic initiatives in both eukaryotic and bacterial genomics and have two positions available for individuals with M.S./Ph.D. degrees or equivalent experience.

Bioinformatics Scientist

This position will maintain and develop genomic database systems which contain public and proprietary genomic data and will provide GCG and general bioinformatics support to program teams. The successful candidate will also develop and apply new computational genomics analysis methods to database searching, sequence/structure/function prediction and pattern recognition. They will contribute to development or deployment of an integrated interface to diverse genomic data. Experience with UNIX, SQL, RDBMS design and maintenance, and GCG is required. Experience in bioinformatics, Perl, and WWW development is highly desirable. Strong interpersonal and communication skills are required. Please refer to position #970044 in your correspondence.

Computational Biologist

The ideal candidate will develop and apply sequence analysis methods for database mining, prediction of protein structure and function, and pattern recognition from relational genomic databases. Demonstrated experience in database mining predicting the function of polypeptides encoded by orphan genes and a thorough working knowledge of UNIX are essential. Experience with relational database tools (SQL) is also desirable. Excellent communication skills and the desire to work as a part of multidisciplinary discovery teams are essential. Please refer to position #970038 in your correspondence.

At Pharmacia & Upjohn you can make a difference, not only for the sake of your career, but also for the millions of people around the world whose lives will be enhanced by the solutions you help us provide. Pharmacia and Upjohn offers competitive salary and benefits.

For confidential consideration, please send your resume with the appropriate position number and a description of your research experience to: Pharmacia & Upjohn, Recruiting, 7000 Portage Road, Kalamazoo, MI 49001. We are an equal opportunity employer with a commitment to work place diversity.



Staff Physician Position Pulmonary and Critical Care Medicine Branch NHLBI, NIH

The Pulmonary and Critical Care Medicine Branch (P-CCMB) of the National Heart, Lung, and Blood Institute is recruiting a Staff Physician with an M.D. and board certification or eligibility in Pulmonary Disease and/or Critical Care Medicine to assist in the development of the clinical research programs within the Branch. As Staff Physician, the applicant will work closely with the Chief of the Branch and be responsible in part for the consultation and clinical research services. It is expected that the applicant will be the medically responsible individual for clinical protocols in pulmonary disease and share in the clinical responsibilities of the Branch, including the training of fellows. The applicant should have experience in basic and/or clinical research and an established record of publication in peer-reviewed journals. The role of the Staff Physician, as distinguished from that of a physician in an independent, tenure-track position, is to provide support for other members of the Branch in their clinical research efforts. The Staff Physician, therefore, will not receive independent research funding. The Staff Physician will receive a Civil Service appointment and be eligible for Title 38 bonuses. Questions regarding the position should be referred to Joel Moss, M.D., Ph.D., Chief, P-CCMB, at 301-496-1597. Applications must be received by July 31, 1997

To apply, please send a curriculum vitae, bibliography, a brief statement of research interests, and have sent three letters of recommendation to:

Office of the Scientific Director, NHLBI Building 10, Room 7N214 10 Center Drive, MSC 1668 Bethesda, MD 20892-1668

NIH is an Equal Opportunity Employer



POSITIONS OPEN

POSTDOCTORAL POSITION

POSTDOCTORAL FELLOWSHIP is available in the Department of Gynecology and Obstetrics at Emory University to study a number of problems related to Gyn/Ob and cardiovascular diseases. Candidates with a Ph.D. degree and proven expertise in molecular biology techniques should send curriculum vitae and three references to: Ms. Toni Edwards, Department Gyn/Ob, Emory University, 1639 Pierce Drive, Atlanta, GA 30338. Email: spartha@emory.edu.

Emory University is an Equal Opportunity/ Affirmative Action Employer.

The Cedars-Sinai Research Institute is currently seeking professionals to join the Neurogenetics laboratory. Cedars-Sinai Medical Center is an affiliate of the UCLA School of Medicine. The Research Institute has established programs in molecular and cellular biology and human genetics. The following positions are available.

POSTDOCTORAL RESEARCH

The Postdoctoral Fellow/Research Associate positions will be involved in the molecular-genetic study of neurodegenerative disorders (Pulst *et al.*, *Nature Genetics*, 1996) and the molecular analysis of familial CNS tumors (Huynh & Pulst, *Oncogene*, 1996). Applicants must possess a Ph.D. degree and a strong background in molecular biology and genetics. The positions are funded for a minimum of two years. The salary is \$25,000 to \$30,000 per annum depending upon experience.

RESEARCH ASSOCIATE

These positions are responsible for organizing and performing studies relating to the analysis of neurologic disease genes. A B.S. degree is required. One position requires molecular biology laboratory experience and DNA sequencing and the second requires familiarity with automated genetic linkage analysis.

Send curriculum vitae with names and addresses of three references to: Dr. Stefan M. Pulst, Cedars-Sinai Medical Center, 8700 Beverly Boulevard, Room 8920 South Tower, Los Angeles, CA 90048. FAX: 310-967-0130; Email: pulst@csmc.edu.

Equal Opportunity Employer

TRAINING POSITION MOLECULAR AND CLINICAL THYROIDOLOGY

The thyroid units of the Beth Israel Deaconess Medical Center and the Brigham and Women's Hospital, are pleased to announce the availability of a **POSTDOC-TORAL POSITION** which seeks to offer extensive experience in molecular thyroid research. Ph.D. or M.D. candidates are encouraged to apply. Clinical training leading to board-eligibility is available for M.D. candidates. The interests of the affiliated laboratories are centered on (1) understanding the role of regulatory cofactors in thyroid hormone action, using *in vitro* and transgenic approaches; (2) Determining the roles of deiodinases in modulating thyroid hormone action in specific tissues. The position will be for three years. U.S. citizenship or permanent residency status is required. For additional information please contact: Fredric E. Wondisford, M.D., Thyroid Unit, Beth Israel Deaconess Medical Center, RN 330 C, 330 Brookline Avenue, Boston, MA 02215.

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE POSTDOCTORAL POSITION

Available immediately utilizing transgenic methods to study the molecular and genetic mechanisms of human neurodegenerative disease. Current work focuses on the genetic control of pathways for iron and copper metabolism in the CNS (see PNAS 93:14030, 1996; *Hum. Mol. Gen.* 5:1989, 1996; *J. Biol. Chem.* 272:9221, 1997). Experience in molecular biology, neuroscience and murine transgenic technology is desirable. Send curriculum vitae and names of references to: Dr. Jonathan D. Gitlin, Washington University School of Medicine, 660 South Euclid, Box 8116, St. Louis, MO 63110. Email: gitlin@kidsa1.wustl.edu. Washington University is an Equal Opportunity/Affinnative Action Employer, Minorities/ Fenales/Disabled/Veterans.

POSITIONS OPEN

CALTECH POSTDOCTORAL SCHOLARS PROGRAM AT THE JET PROPULSION LABORATORY

The California Institute of Technology Postdoctoral Scholars Program at the Jet Propulsion Laboratory (JPL) is inviting applicants to apply for positions at JPL's Center for Integrated Space Microsystems in the areas of: neural networks (biological as well as artificial), quantum computing, DNA and molecular computing, and ultra low power technologies. Research activities will include development of novel software and hardware for architectures for optimization, classification and pattern recognition applied to spacecraft data analysis. Expertise in the area of neural networks and fuzzy expert reasoning, quantum mechanics and biological computing is required. Experience in pattern recognition, signal processing and software development with C/C^{++} is highly desirable. The successful candidate will work closely with **Dr. L. Alkali** and **Dr. N. B. Toomarian**.

Applicants should have a recent Ph.D. in physics, electrical engineering, computer science or a related field. Appointment is contingent upon evidence of completion of a Ph.D. Annual salary for a recent Ph.D. is approximately \$36,000 and can vary somewhat according to applicants' qualifications. **POSTDOCTORAL SCHOL-ARS** positions awarded initially for one year period. Appointments may be renewed in one year increments for a maximum of two additional years. Please send curriculum vitae, bibliography, statement of research interest and a list of three references to:

> Dr. Nikzad B. Toomarian Jet Propulsion Laboratory California Institute of Technology 4800 Oak Grove Drive MS 303-310 Pasadena, CA 91109 FAX: 818-393-5013 Email: beni@cism.jpl.nasa.gov

The California Institute of Technology and the Jet Propulsion Laboratory are Equal Opportunity/Affirmative Action Employers. Women, minorities, veterans and disabled persons are encouraged to apply.

University of Washington Engineered Biomaterials, an NSF-sponsored Engineering Research Center is seeking an INDUSTRIAL COORDINATOR. The Center is a multidisciplinary university-industry consortium working to develop biomaterials that actively trigger healing and communicate with living tissues. The Industrial Coordinator will be responsible for the success of the UWEB industrial program. Information on the UWEB program can be found at http://www.uweb.engr.washington.edu. Interested Ph.D./M.S. applicants with four years of progressively responsible development experience in a university setting can send résumés and three letters of reference to: Margaret Kramer, Box 351750, University of Washington, Seattle, WA 98195 by May 9, 1997. The University of Washington is an Equal Opportunity, Affinnative Action Employer.

BANKAMERICA VENTURES FOSTER CITY, NORTHERN CALIFORNIA Associate Position in the Health Care Group

Position requires a graduate degree and three to five years of work experience in the biotechnology industry. Bank of America offers competitive compensation, incentive pay and outstanding benefits, including stock options. Please apply in writing enclosing your résumé to: Human Resources-TNP, Bank of America, 231 South LaSalle Street, 13th Floor, Chicago, IL 60697 Bank of America is an Equal Opportunity Employer.

POSTDOCTORAL POSITION to study the early molecular events involved in TNF-receptor (CD120a) signaling in macrophages, and their link to functional activation of these cells. Applicants should be highly skilled in molecular biology techniques including cloning, mutagenesis and expression techniques in prokaryotes and eukayrotes. Send curriculum vitae, summary of research experience and directions, and three letters of recommendation to: David Riches, Ph.D., Division of Basic Sciences, National Jewish Medical and Research Center, 1400 Jackson Street, Denver, CO 80206. FAX: 303-398-1851; Email: richesd@njc.org.

POSITIONS OPEN

The Children's Hospital of Philadelphia, the nation's first hospital dedicated solely to pediatric care, has **POST-DOCTORAL POSITIONS** in:

HEMOSTASIS AND THROMBOSIS

The positions are available for strong candidates with training in structural biology/molecular biology/animal model studies to work with **Drs. Mortimer Poncz** and **Douglas Cines.** One position will study the molecular mechanism of herapin-induced thrombocytopenia and one will study ectopic protein expression in platelets in transgenic animal models.

We offer a highly competitive salary and excellent benefits, including tuition assistance. Please send résumé, including salary requirements, to: Department 9999DP, The Children's Hospital of Philadelphia, 34th Street and Civic Center Boulevard, Philadelphia, PA 19104-4399. FAX: 215-590-3184. Equal Opportunity Employer/Affirmative Action. Males/Females/Disabled/Veterans.

POSTDOCTORAL POSITION IN HEMATOLOGY-ONCOLOGY/CANCER RESEARCH

POSTDOCTORAL POSITION is available immediately for one or more highly motivated individual(s) interested in the molecular genetics of cancer and hematopoiesis. Studies are generally focused on the molecular events regulating the lineage commitment and maturation of blood cells and require a strong background in molecular and cellular biology. A new collaborative project in the molecular genetics of ovarian cancer is being initiated requiring strong molecular biology background. Send curriculum vitae with names, addresses, and telephone numbers of three references to: Judith C. Gasson, Ph.D., UCLA School of Medicine, Departments of Medicine and Biological Chemistry, Division of Hematology-Oncology, Los Angeles, CA 90095-1678. UCLA is an Affirmative Action/Equal Opportunity Employer.

Harvard/POSTDOCTORAL POSITIONS are available to study molecular mechanisms of arteriosclerosis and hypertension with special emphasis on molecular cloning, transcriptional regulation, and biological function of genes important for contractility, growth and differentiation of vascular smooth muscle cells. Experience with molecular biology, gene targeting, or protein chemistry is required. Please send curriculum vitae and names of three references to: M. E. Lee, M.D., Ph.D., Associate Professor, Cardiovascular Biology Laboratory, Building 2, Room 129B, Harvard School of Public Health, 665 Huntington Avenue, Boston, MA 02115.

An NIH-funded **POSTDOCTORAL POSITION** is available to study the transcriptional regulation of a human gene involved in sulfur amino acid metabolism (J. *Biol. Chem.* **271**:22831, 1996). Candidates must have a Ph.D. and molecular biology experience. Experience characterizing promoter/enhancer regions is desirable. Send curriculum vitae, including the names of three references to: Dr. Tim Garrow, Division of Nutritional Sciences, **905** South Goodwin Avenue, Urbana, IL **61801. Email: t-garro@uiuc.edu**. University of Illinois is an Equal Opportunity Employer.

Cellular Immunology **RESEARCH TECHNICIAN**: Full-time position to study the T cell response to viral pathogens in humans and transgenic mice. At least three years experience in cellular immunology required, including DNA immunization, transfection, T cell cloning, virus propagation and plaque assay, flow cytometry and cytokine analysis. Salary/benefits commensurate with training and experience. Send résumé with three references to: Francis V. Chisari, M.D., The Scripps Research Institute, 10550 North Torrey Pines Road, La Jolla, Ca 92037. FAX: 619-784-2160; Email: fchisari@scripps.edu.

POSTDOCTORAL POSITIONS available to study regulation of transgene expression in the nervous system using herpes simplex virus-based gene transfer vectors (*Ann. Rev. Neuroscience* 19:265, 1996; *Nature Med.* 3:357, 1997). Requires M.D. or Ph.D. and experience in either neuroscience or virology. Send curriculum vitae and the names of three references to: Dr. David Fink, Department of Neurology Molecular Genetics and Biochemistry, S520 Biomedical Science Tower, University of Pittsburgh, Pittsburgh, PA 15213. Email: dfink@med.pitt.edu.



DEKALB Genetics Corporation is the fastest growing agricultural seed company in the U.S. We seek bright, creative, and ambitious people to join our expanding biotechnology research team focused on the genetic improvement of crop plants.

Project Leader - Yield Improvement:

Successful candidate will help to initiate, direct and implement research objectives directed towards increasing yield through the introduction and manipulation of transgenes. Candidates should have a Ph.D. in plant biochemistry, plant cell biology or plant physiology, with a strong background in plant molecular biology, experience with transgenic plants, and good communication skills.

Project Leader - Disease Resistance:

Successful candidates will help to initiate, direct and implement research into increasing resistance to commercially important disease pests of corn using transgenes. Candidates should have a Ph.D. in plant pathology, with a strong background in molecular techniques and good communication skills.

Research Associates and Research Assistants -Transgene Development:

Successful candidates will perform DNA cloning, gene isolation and vector construction as well as protein isolation, characterization and assays. Candidates should have a B.S./B.A. or M.S. degree in biochemistry, biology, genetics or a related field with at least two years of lab experience, preferably plants and/or tissue culture experience.

Research Associates and Research Assistants -Cereal Transformation:

Successful candidates will help produce transgenic plants and develop novel transformation technologies. Candidates should have an M.S. plus two years research experience (associates) or a B.S./B.A. and two years lab experience in biological sciences, with cereal tissue culture and transformation preferred.

Research Associate - DNA Marker Lab:

Successful candidates will assist in the development and implementation of a DNA marker screening lab. Candidates should have an M.S. in biological sciences with significant experience in high throughput analyses and be well-versed in molecular biology techniques.

The successful candidates will be located at DEKALB's biotechnology research facility in Mystic, CT, a scenic shoreline community located on Long Island Sound, half-way between New York and Boston. DEKALB offers competitive compensation, an attractive benefits package, and an outstanding working environment.

Send applications and the names, addresses and phone numbers of three professional references to Human Resources, DEKALB Genetics Corporation, 62 Maritime Drive, Mystic, CT 06355-1958, Fax (860) 572-5240.



IBIA Neurosciences, Inc., is expanding its interdisciplinary research and development on therapeutics for diseases and disorders of the nervous system. We have established an impressive record in the development of innovative technologies integral to neuroscience research and drug discovery. We are now seeking experienced Scientists in several areas of investigation to support our efforts to identify and develop the neuropharmaceuticals of the future.

BIOANALYTICAL

Ph.D. with 5+ years experience in bioanalytical methods development, biological sample analysis, and ADME. Experience in report writing and ADME interpretation are essential.

BS/MS degree in Analytical/Pharmaceutical Chemistry, Pharmacy, or an allied field together with a minimum of 3 years in drug assay development or the analysis of biologic samples.

SAFETY PHARMACOLOGY

Ph.D. with at least 5 years experience performing safety pharmacology evaluation in rodents and interpretation of experimental data. Experience performing surgical procedures, including cannulation, is desirable.

BS/MS degree with broad experience in physiology, *in vivo* screening techniques with some cardiovascular evaluation required, small animal care, handling, surgery, and experimentation.

PSYCHOPHARMACOLOGY

Ph.D. with 2+ years experience working on various models of neurodegeneration with specific emphasis on evaluation of test compounds in animal models of focal ischemia. Expertise in histological assays is essential. General behavioral and drug screening background is advantageous.

Ph.D. with 5 years experience in research involving chronic and acute *in vivo* models of analgesia and inflammation. Knowledge of the cellular/molecular mechanisms underlying these processes is essential.

BS/MS with broad experience in behavioral pharmacology and stereotaxic surgery. Knowledge of neuroanatomy, immunocytochemistry, and statistical analysis required. Previous drug screening experience evaluating test compounds is advantageous.

NEUROPHARMACOLOGY

BS with 4-6 years experience or MS with 2-3 years experience. Training in neuropharmacology with special emphasis on *in vivo/ex vivo* rodent experimentation involving online microdialysis using HPLC techniques and stereotaxic surgery.

BS/MS with training in neuropharmacology and emphasis on *ex vivo/in vivo* experimentation in the context of neuroprotection. Knowledge of neuroanatomy, immunohistochemistry, stereotaxic surgery, and neurochemical/molecular biology techniques is desirable.

MANAGER, REGULATORY AFFAIRS

This position requires a Ph.D. (or equivalent) in a scientific discipline together with 2-3 years experience in drug development and regulatory submissions and approvals. Main responsibilities will include regulatory strategies and submissions together with project and outside contract management to meet regulatory timelines.

Located on San Diego's beautiful La Jolla coastline, SIBIA Neurosciences offers not only a challenging environment in an aesthetically pleasing setting, but also a competitive salary and benefits package. Send your C.V. with the names of 3 references to: Lynn Alba, SIBIA Neurosciences, Inc., 505 Coast Blvd., South, Suite 300, La Jolla, CA 92037, phone (619) 452-5892 or fax (619) 452-9279. EOE.



POSITIONS OPEN

POSTDOCTORAL POSITION to study structure-activity relationships of free radicals on cellular toxicity is available immediately. Training in biochemistry/cell culture techniques is required. Send résumé, letter of recommendation, and the name and address of one other reference to: **Professor C. Selassie, Chemistry Department, Pomona College, 645 North College Avenue, Claremont, CA 91711-6338.** Pomona College is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ON HERPES SIMPLEX VIRUS

A POSTDOCTORAL FELLOWSHIP is available immediately at The Wistar Institute, an independent biomedical research institute located on the campus of the University of Pennsylvania, and Thomas Jefferson University. The Fellowship is designed to train individuals for an independent research career in virology. Applicants may choose to perform their research from amongst three laboratories engaged in basic research focused on understanding the mechanism of herpes simplex virus latency and reactivation. Timothy Block: *In vitro* latency systems; Nigel Fraser: LAT gene structure and function; Shelley Berger: Gene activation during reactivation. The successful candidate may be funded by a training grant awarded by the National Institutes of Health, thus applicants should be citizens or nationals of the United States or permanent residents. Minority applicants are strongly encouraged to apply. Interested individuals are requested to send a curriculum vitae, summary of research interests, and three letters of reference to:

> Ms. Liz Stone The Wistar Institute Training Office Virology Department 3601 Spruce Street Philadelphia, PA 19104-4268 Equal Opportunity Employer

POSTDOCTORAL POSITION OREGON HEALTH SCIENCES UNIVERSITY PORTLAND, OREGON

A POSTDOCTORAL POSITION in molecular virology is immediately available for an individual interested in the role of hematopoietic growth factor receptors in the molecular pathogenesis of murine retroviruses. A strong research background in molecular biology (including recombinant DNA and tissue culture techniques) and excellent interpersonal skills are required. Interest and competence in bioinformatics is desirable. Work will be in the laboratory of Dr. Maureen Hoatlin with interaction with the laboratory of Dr. David Kabat. Applicants should send a cover letter, curriculum vitae, a description of research experience, and the names, fax, and telephone numbers of three references to: Maureen Hoatlin, Ph.D., Oregon Health Sciences University, Division of Hematology and Medical Oncology, mail code L586, 3181 S.W Sam Jackson Park Road, Portland, OR 97201. FAX: 503-494-6197; Email: hoatlinm@ohsu.edu

POSTDOCTORAL POSITION/S available to define the role of cytokines and chemokines in the lung inflammatory response using both *in vitro* and *in vivo* approaches. Experience with rat surgery along with basic cell and molecular biology techniques is desirable. Must be U.S. citizen/permanent resident. Please send curriculum vitae, research interests and names of three references to: Peter A. Ward, M.D., Department of Pathology, University of Michigan Medical School, 1301 Catherine Street, Ann Arbor, MI 48109-0602. FAX: 313-764-4308; Email: pward@umich.edu.

The University of Alabama at Birmingham has a **:OSTDOCTORAL POSITION** for a molecular biolgist with a recent Ph.D. in molecular biology. Candidate ill work as a group player to study human apolipoproeins structure and function with particular emphasis on po A-I and B. Candidate is expected to conduct research idependently. Must be a U.S. citizen or have permanent sident status. Send résumé to: G. M. Anantharasiah, Ph.D., Professor of Medicine Biochemistry, d Molecular Genetics, Atherosclerosis Research Init, 630 BDB, Birmingham, AL 35294.

POSITIONS OPEN

POSTDOCTORAL POSITIONS THE AARON DIAMOND AIDS RESEARCH CENTER

Two **POSTDOCTORAL POSITIONS** are available to study cellular immune responses to HIV and SIV. Areas of interest include viral/immune interactions in acute HIV infection, effect of antiretroviral drugs on imnune response, priming of CTL responses using dendritic cells, and CTL responses in SIV infected and vaccinated animals. Candidates should have a strong background in cellular immunology. Send curriculum vitae and names of three references to: **Dr. Douglas Nixon** at the address below. **Email: dnixon@adarc.org**. One postdoctoral position is available to study simian

One postdoctoral position is available to study simian co-receptors and their interaction with human and simian lentiviruses. The research involves cloning, expression, heterogeneity and function of co-receptor use by divergent SIV's. Send curriculum vitae and names of three references to: **Dr. Preston Marx** at the address below. **Email: pmarx@adarc.org**. One postdoctoral position is available to study im-

One postdoctoral position is available to study immune mechanisms associated with attenuated SIV vaccines. Additional areas of study include cloning and characterization of primary HIV-1 envelope glycoproteins and their interaction with viral co-receptors. Candidates should have a strong background in molecular biology and experience with mammalian tissue culture systems. Send curriculum vitae and names of three references to: **Dr. Ruth Connor** at the address below. **Email: rconnor@adarc.org**.

The Aaron Diamond AIDS Research Center 455 First Avenue New York, NY 10016 FAX: 212-725-1126

The Diamond Center is an affiliate of The Rockefeller University. The Diamond Center is an Equal Opportunity Employer.

POSTDOCTORAL POSITION

On the role of mitochondrial DNA mutations. Research on the role of mitochondrial DNA mutations in aging Alzheimer's Disease and cardiomyopathy. Experience in molecular and cellular biology essential. Send curriculum vitae and names of three references to:

> H. Peter Zassenhaus, Ph.D. Associate Professor Department of Molecular Microbiology and Immunology St. Louis University Medical School 1402 South Grand St. Louis, MO 63104 Equal Opportunity Employer

DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS

Case Western Reserve University School of Medicine

Applications are invited for positions as INSTRUC-TORS, RESEARCH ASSOCIATES and POSTDOC-TORAL FELLOWS in the following areas: signal transduction, molecular biology of membrane proteins, structural biology, channel regulation, cell motility and systems integrated physiology. Send curriculum vitae and the names of three references to: Administrative Manager, Department of Physiology and Biophysics, 10900 Euclid Avenue, Cleveland, OH 44106-4970. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOW required immediately to investigate mechanisms involved in psychostimulants action *in vivo* and *in vitro*. Interest in neuroscience and psychopharmacology of substance abuse is required. Send curriculum vitae and names of three references to: Yossef Itzhak, Ph.D., Department of Biochemistry and Molecular Biology (R-629), University of Miami School of Medicine, P.O. Box 016129, Miami, FL 33101. Telephone: 305-243-4635; FAX: 305-243-3955; Email: yitzhak@mednet.med.miami.edu.

Aquatic/Fisheries ECOLOGIST – POSTDOCTOR-AL Center for Aquatic Ecology, Illinois Natural History Survey. Responsible for research program, administration and supervision staff of the Sam Parr Biological Station. Emphasized areas of research include fish ecology, trophic ecology, and fisheries management. Contact: Dr. David H. Wahl for additional information. Telephone: 217-728-4400.

POSITIONS OPEN

POSTDOCTORAL ASSOCIATE

A position is available for an individual experienced in MOLECULAR BIOLOGY to study structure/function relationships and the regulation of gene expression of enzymes of protein glycosylation during mammary gland development. Please forward curriculum vitae and three letters of reference to: Dr. Inder K. Vijay, Department of Animal and Avian Sciences, (Code S), University of Maryland, College Park, MD 20742 U.S.A. Email: ivl@umail.umd.edu. Equal Opportunity/Affinative Action Employer.

POSTDOCTORAL POSITION MICROBIOLOGY AND IMMUNOLOGY UNIVERSITY OF ILLINOIS AT CHICAGO

A position is available immediately to identify and clone genes specifying tumor antigens expressed by immunogenic cells transfected with DNA from both human and mouse neoplasms (*Cancer Research* 54: 2531–2535, 1994; *Cancer Gene Therapy*, 2: 183–190, 1995). Applicants should have a strong background in molecular biology and experience in cellular immunology. Send curriculum vitae and references to: Edward P. Cohen, M.D., Department of Microbiology and Immunology (m/c 790), 835 South Wolcott, Chicago, IL 60612. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.

A POSTDOCTORAL POSITION is available immediately to participate in funded studies on the molecular mechanism of action of a novel peptide growth factor (*Endocrinology* 137:1921, 1996). Applicants should have a Ph.D. degree and a strong background in cell biology, molecular biology or biochemistry. Please send curriculum vitae and three references to: John C. Lee, Ph.D., Department of Biochemistry, The University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284-7760. *Affirmative Action/Equal Opportunity Employer*.

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POSTDOCTORAL POSITION

Available now: a **POSTDOCTORAL OPPORTU-NITY** in an NIH-funded laboratory, using *Drosophila* to study the molecular mechanisms underlying touch and hearing. A large collection of mutants has identified genes required for mechanosensory transduction. Projects include molecular analyses of the affected genes and electrophysiological and ultrastructural studies of mechanosensory cells. Please send résumé and names of three references to: **Maurice Kernan**, **Department of Neurobiology and Behavior, State University of New York at Stony Brook, Stony Brook, NY 11794-5230**. *Stony Brook is an Affirmative Action/Equal Opportunity Employer*.

POSTDOCTORAL POSITION – RETINAL JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

Available immediately for cell and molecular investigations of photoreceptor responses to growth factors, search for novel factors, and exploration of their use in treatment of retinal diseases. Eligibility for NIH fellowship required. Send curriculum vitae and three references to: Don Zack, 809 Maumenee, 600 North Wolfe Street, Baltimore, MD 21287. Email: don_zack@qmail.bs.jhu.edu. Equal Opportunity/Affinnative Action Employer.

POSTDOCTORAL FELLOWSHIP, Vanderbilt Medical School. Position immediately available for M.D. (permanent resident) in project dealing with *in vivo* mechanisms of defective hypoglycemic counterregulation in diabetic humans. Position offers extensive training in metabolism, neuroendocrinology, and autonomic nervous system physiology. Submit curriculum vitae, research interest, with career goals and names of three references to: **Stephen Davis, M.D., Vanderbilt University Medical School, Divisions of Diabetes/Endocrinology, 715 MRB II, Nashville, TN 37232-6303**.

POSTDOCTORAL POSITION available for Neuroscientist to study spatial correlates of single cells in hippocampal formation. Send curriculum vitae, and brief summary of research interests, to: **Pat Sharp**, **Department of Psychology**, **Box 208205 Yale Station**, **Yale University**, **New Haven**, **CT 06520. Email: psharp@minerva.cis.yale.edu**. Yale University is an Equal Opportunity/Affinative Action Employer, thus applications from women and members of minority groups are especially encouraged.





RESEARCH ASSISTANT

The Prostate Cancer Initiative Program of the Karmanos Cancer Institute and Wayne State University would like to announce an opening for a research assistant to function as the coordinator for the collection, storage and laboratory testing of tissues and biological samples. We are looking for a well organized person with a Bachelor degree in biology or a related field. The candidate is required to gain familiarity with tissue acquisition and distribution protocols. He or she will also be expected to be trained and acquire basic laboratory skills related to the functions of this position. This will be in the areas of molecular biology, histolotechnology and immunohistochemistry. Please send your CV and three letters of reference to Wael Sakr, M.D., Department of Pathology, Wayne State University, 540 E. Canfield, Detroit, MI 48201. Wayne State University is an equal opportunity/affirmative action employer. All buildings, structures and vehicles at Wayne State University are smokefree. Wayne State University - People working together to provide quality service.

DATA MANAGEMENT RESEARCH ASSISTANT/ASSOCIATE

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The Prostate Cancer Initiative Program of the Karmanos Cancer Institute and Wayne State University announce the availability of a position for a data management person to enter and coordinate the scientific data for the program. The position is appropriate for a research assistant/associate level and the individuals interested are expected to be able to fulfill the requirements of the two major components the position encompasses:

1) Good computer skills including familiarity with the more common data base and spread sheet programs. In this capacity, the candidate will be coordinating the data collection and entry from the different laboratories, researchers and collaborators in the program.

2) A background in biology or science to be able to communicate and interact with the scientists generating and utilizing these medical/biological data, follow the progress on individual projects and ensure the timeliness and accuracy of data collection and entry. Good organizational and communication skills are essential.

Please send your CV and three letters of reference to Wael Sakr, M.D., Department of Pathology, Wayne State University, 540 E. Canfield, Detroit, MI 48201. Wayne State University is an equal opportunity/affirmative action employer. All buildings, structures and vehicles at Wayne State University are smokefree. Wayne State University - People working together to provide quality service.

POSTDOCTORAL POSITIONS NEW ENGLAND BIOLABS, INC.

New England Biolabs, a world leader in the production of restriction endonucleases and other related products for the recombinant DNA field, seeks applicants for:

Protein Engineer: Immediate postdoctoral position for a recent Ph.D. is available to study protein splicing. Experience with protein folding, protein engineering, chemistry, or molecular biology is required. After establishing an *in vitro* splicing system and determining the chemical mechanism of protein splicing, we are interested in using inteins for protein engineering. Among the projects under study are the control of splicing, splicing of intein fragments, and intein structure/function. Send a resume and three references to: **Dr. Francine Perler.**

Biochemist/Molecular Biologist: Immediate postdoctoral position for a recent Ph.D. is available to study protein splicing and its applications. Experience with protein chemistry, protein engineering and molecular biology is required. Familiarity with protein expression systems in microorganisms is a plus. This new and exciting field has great potential for both basic research and commercial applications. Send a resume and three references to: **Dr. Shaorong Chong.**

Molecular Biologist: Postdoctoral position is available to study the molecular biology, pharmacology and signal transduction of G-coupled seven transmembrane domain receptors. In this project, you may be involved in ligand discovery and screening methodologies. Candidates should have a Ph.D. in a relevant area (receptor biology, neuroscience, biochemistry or molecular biology). Experience and publications in these fields as well as in signal transduction are an advantage. Candidates with combined experience and knowledge in these areas are particularly encouraged to apply. Send a resume, list of publications, and three references to: **Dr. R. D. Polakiewicz.**

Molecular Biologist/Geneticist: Immediate postdoctoral position is available for a recent Ph.D. to study the genetic regulation of molting in human parasitic nematodes and *C. elegans*. The research involves the identification and characterization of genes involved in the ecdysone response in filarial nematodes and nuclear hormone receptors in *C. elegans* with a goal of both understanding development and identifying chemotherapeutic targets. Applications should have a strong background in the genetic regulation of development in eukaryotes. Send a resume and three references to: **Dr. Claude Maina.**

New England Biolabs, Inc. 32 Tozer Road Beverly, MA 01915 An Equal Opportunity Employer



POSITIONS OPEN

UNIVERSITY OF TORONTO MOLECULAR MEDICINE PROGRAMME POSTDOCTORAL RESEARCH SCIENTIST

The Inflammatory Bowel Disease Genetics Group located at the University of Toronto is inviting applications from **POSTDOCTORAL FELLOWS** who are interested in working on a positional cloning project involving the identification of susceptibility genes to inflammatory bowel diseases.

A Ph.D. in molecular genetics or a related field is required and experience with genetic linkage analysis, positional cloning, and physical mapping techniques would be an advantage.

Direct informal enquiries to: A. Smith; Telephone: 416-586-8470; Email: anne@mshri.on.ca.

Qualified candidates should send a full curriculum vitae, a brief summary of research experience and the names and address of two academic referees to:

> Anne Smith Samuel Lunenfeld Research Institute Mount Sinai Hospital, Room 305 600 University Avenue Toronto, Ontario, M5G 1X5 Canada

POSTDOCTORAL ASSOCIATE SYLVESTER COMPREHENSIVE CANCER CENTER

Seeking Ph.D. in cellular immunology. Will be responsible for projects in tumor immunology. Should be experienced in animal tumor models, lymphocytes separation and activation, cytotoxicity assays and immunofluorescence analysis. Salary commensurate with previous publications and experience. Must exhibit excellence in research and willingness to work with patient samples.

Please forward curriculum vitae and names of three references to: Amitabha Mazumder, M.D., Associate Director for Clinical Research, c/o Susan Martin, Sylvester Comprehensive Cancer Center, 1475 N.W. 12 Avenue, (D8-4), Miami, FL 33136. The University of Miami is an Equal Opportunity/Affinative Action Employer.

UNIVERSITY OF MIAMI SCHOOL OF MEDICINE

POSTDOCTORAL POSITIONS, PROTEIN/DNA INTERACTIONS AND CANCER GENETICS

Positions available to study (i) thermophilic DNA-recognition proteins using biochemical, genetic, and structural approaches, and their use in (ii) detection of mutations associated with tumor development to explore oncogene and tumor suppressor gene pathways. Applicants should have a Ph.D., preferably with experience in protein-DNA interactions, structural biology, nucleic acid chemistry, DNA and PCR technology, and cancer or human genetics. Competitive salary commensurate with experience. Send curriculum vitae and names of three references to: Professor Francis Barany, Program of Biochemistry and Structural Biology, Department of Microbiology, Box 62, Cornell University Medical Center, 1300 York Avenue, New York, NY 10021. FAX: 212-746-8587. Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE

Two NIH-FUNDED POSITIONS are immediately available to study gene therapy and tolerance. Laboratory interests include manipulation of hematopoietic stem cells, hepatocytes and islet cells and creation of conditionally-immortalized liver and islet cell lines. Promising laboratory investigation will be integrated into the clinical transplantation programs. Applicants should have a Ph.D. or M.D., a strong background in virology and/or molecular biology and be a U.S. citizen or permanent resident. Send curriculum vitae and references to: Ira J. Fox, M.D., Department of Surgery, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198-3285. An Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.

POSTDOCTORAL POSITION to investigate the hormonal regulation of transcription in the liver by steroid hormones and cAMP. Please send curriculum vitae and names of three references to: Edwards A. Park, Department of Pharmacology, University of Tennessee, 874 Union Avenue, Memphis, TN 38163. FAX: 901-448-7300; Email: epark@utmeml.utmem.edu. The University of Tennessee, Memphis is an Equal Employment Opportunity/Affirmative Action/Title VII/Title IX/Section 504/ Americans with Disabilities Act Employee.

POSITIONS OPEN

The Cellular and Molecular Mechanisms Section of the Pain Neurosensory Mechanisms Branch, (formerly the Neurobiology and Anesthesiology Branch), of the National Institute of Dental Research, National Institutes of Health, is recruiting a JUNIOR AND SENIOR LEVEL POSTDOCTORAL FELLOW to join a research program investigating the control of gene expression in animal models of peripheral inflammation and hyperalgesia or nerve injury. Training and experience in molecular biology and/or neuroanatomy are required.

Please send a curriculum vitae, three letters of recommendation, and a cover letter outlining areas of research interest and skills to:

Dr. M. A. Ruda Chief, Cellular and Molecular Mechanisms Section National Institute of Dental Research 49 Convent Drive Building 49, Room 1A11 Bethesda, MD 20892 FAX: 301-402-0667

Application materials must be postmarked and sent by the closing date of May 30, 1997. NIS is an Equal Opportunity Employer.

POSTDOCTORAL/RESEARCH ASSOCIATE position, Division of Neurobiology and Behavior Research, Department of Psychiatry, University of Mississippi Medical Center. Development, implement, and publish research relating to the behavioral neuropharmacology of abused drugs, particularly drug self-administration and drug discrimination in non-human primates. The relationship between *in vitro* or *in vivo* neuropharmacology, neuroscience or psychology is required. Salary commensurate with experience. Send curriculum vitae, statement of research goals, and names of three references to: William L. Woolverton, Ph.D., Department of Psychiatry and Human Behavior, The University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216. Equal Opportunity Employer, Minorities/Females/Disabled/Veterans.

MOLECULAR NEUROSCIENCE

The Cellular and Molecular Mechanisms Section of the Pain Neurosensory Mechanisms Branch, National Institute of Dental Research, NIH, is recruiting a **JUNIOR** and a **SENIOR LEVEL POSTDOCTORAL FEL-LOW** to join a research program investigating the control of gene expression in animal models of peripheral inflammation and hyperalgesia or nerve injury. Training and experience in molecular biology and/or neuroanatomy is required. Please send a curriculum vitae, three letters of recommendation, and a cover letter outlining areas of research interest and skills to: Dr. M. A. Ruda, 49 Convent Drive, Building 49, Room 1A11, Bethesda, MD 20892. FAX: 301-402-0667. Application materials must be received by May 30, 1997. NIH is an Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIPS to characterize monocyte-macrophage differentiation programs and the identification of gene products associated with tissuedestructive disease states available to characterize the role of the proprotein convertase-matrix metalloproteinase axis in tissue-invasive/morphogenetic programs (e.g., *PNAS* **92**:3849, 1995; *Nature* **375**:244, 1995; *JBC* **271**: 9135, 1996). Strong background in cell and molecular biology is required. Submit curriculum vitae and two letters of reference to: **Stephen J. Weiss, M.D., Upjohn Professor of Medicine, University of Michigan Cancer Center, 5301 MSRB III, 1150 West Medical Center Drive, Ann Arbor, MI 48109-0640.**

POSTDOCTORAL FELLOWSHIP available to study the molecular biology of HHV-8 and Kaposi Sarcoma. Candidate will work with a team of experts in delineating KS pathogenesis as related to HHV-8 infection and gene expression. Ph.D. or M.D. required with significant research/laboratory experience. Background in virology, microbiology, molecular biology, immunology a plus.

Send résumés to: Dr. Alvin Friedman-Kien, Department of Microbiology, NYU Medical Center, 530 First Avenue, New York, NY 10016. FAX: 212-263-7933.

POSITIONS OPEN

POSTDOCTORAL POSITIONS BAYLOR COLLEGE OF MEDICINE

Available immediately, to examine the endocytosis and recycling of G protein-coupled beta-adrenergic receptors in response to agonist; regulation of receptortrafficking by Rab and ARF GTPases; receptor polymorphisms affecting downregulation; structure/function study of Rab5 in endocytosis. Methods include radioligand binding, confocal microscopy, cell transfection, molecular biology and protein biochemistry. Permanent residence/U.S. citizenship required. Send curriculum vitae and names of two references to: Brian J. Knoll, Ph.D., Department of Molecular Physiology and Biophysics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030. FAX: 713-798-3475; Email: bknoll@bcm.tmc.edu. Equal Opportunity/Affirmative Action/Equal Access Employer.

SIGNAL TRANSDUCTION YALE UNIVERSITY

POSTDOCTORAL POSITION available to study G protein structure-function relationships and interactions with other signal transducing proteins (*Cell*, **68**: 911, 1992; *J. Biol. Chem.*, **271**: 24720, 1996). Applicants with a strong background in biochemistry and/or molecular biology should send curriculum vitae, a statement of research interests, and the names of three references to: **Catherine Berlot**, M.D., Ph.D., Department of Cellular and Molecular Physiology, Yale University School of Medicine, **333** Cedar Street, New Haven, CT 06520-8026. Email: cathy_berlot@quickmail.cis.yale.edu.

COURSES & TRAINING

DRUG DISCOVERY PROGRAM

The Northwestern Drug Discovery Program (DDP) is an academic-based research and training program characterized by a balanced emphasis on structure, chemistry and biology, and by a strong interface between the basic and clinical sciences. Positions are available immediately. Successful applicants will have a Ph.D., M.D. or equivalent and documented record of productivity. Individuals are expected to develop a customized research program with a sponsor. Although highly competitive applicants in any relevant area may apply, there is a current special need for individuals with expertise in macromolecular crystallography, molecular biology and genetics, synthetic/medicinal chemistry, and clinical neurosciences. Submit a current curriculum vitae, names and addresses of three references, and a statement of research interests to: D. M. Watterson, DDP, P.O. Box 118126, Chicago, IL 60611.

Affirmative Action/Equal Opportunity Employer.

Yale University Section of Digestive Diseases seeks candidates for research **TRAINING** in the broad area of the physiology and cell and molecular regulation of gastrointestinal and liver function. Faculty interests emphasize all aspects of epithelial cell function. Training uses the facilities of the Departments of Medicine, Cell Biology and Cell and Molecular Physiology. U.S. citi zen or permanent resident Visa required. Position is presently available. Contact: Dr. Henry J. Binder or Dr. James L. Boyer, FAX: 203-785-7273; Email: binder@biomed.med.yale.edu. Yale University is an Equal Opportunity Employer and women and minority groups are encouraged to apply.

CARDIOVASCULAR PATHOPHYSIOLOGY FOR ENGINEERS AND SCIENTISTS

A one-week intensive **COURSE** sponsored by the Massachusetts Institute of Technology. June 16–20, 1997, Cambridge, MA. **Dr. Richard J. Cohen, Program Director**. Basic Principles of Cardiovascular Physiology, Cardiovascular Medicine, Diagnostic and Therapeutic Technologies. Contact: **Director of the MIT Summer Session, Telephone: 617-253-2101**.

MASTER OF ARTS IN TEACHING PROGRAM AT CORNELL UNIVERSITY

Cornell University's Department of Education offers a one year Master of Arts in Teaching program for individuals with extensive backgrounds in science who lack coursework in education and student teaching to be eligible for teaching certification. For details, contact: 607-255-9255 or Email: mss13@cornell.edu.



MOLECULAR BIOLOGY GENE THERAPY IMMUNOLOGY GENETICS

LEADING THE WAY ...

By developing cutting edge technologies in the fields of synthetic chromosome engineering, gene therapy, functional genomics, and immunology.

Athersys, Inc. is a privately held, Cleveland, Ohio based biotechnology company engaged in the research and development of novel therapeutics and diagnostic products utilizing the company's core expertise in the areas of *chromosome structure and function* and *immunology*. The company currently has two lead programs: SYNTHETIC MICROCHROMOSOME technology, under development as a novel vector for use in gene therapy and functional genomics applications; and the T-SPOT SYSTEM, a powerful new technology for discovery and development of immunomodulatory therapeutics, vaccines, and clinical diagnostics.

Athersys is currently seeking highly motivated individuals for the positions of Scientist and Senior Scientist to work as part of the SYNTHETIC MICROCHROMOSOME vector development team. Qualified applicants should have a Ph.D. in molecular biology, genetics, or a related field, and should have proven experience and training in molecular biology, chromosome structure and function, and gene expression. A strong publication record and working knowledge of the field of gene therapy are essential.

Athersys is also seeking highly motivated individuals for the positions of Scientist and Senior Scientist to work as part of the T-SPOT development team. Qualified applicants should have a Ph.D. in Immunology or a related field, and should have proven experience and training with a strong background in human T cell biology. A strong publication record and working knowledge of human immunology, vaccine development, autoimmunity, and/or immunomodulatory therapeutics is essential.

Excellent written and verbal communication skills are required for all positions. Athersys offers a competitive salary and benefits package, outstanding opportunities for career advancement, and an opportunity to work as part of a creative and dedicated team developing cutting edge technology. For consideration, please send your resume to: Athersys, Inc., 11000 Cedar Ave., Cleveland, OH 44106. Athersys is an equal opportunity employer.

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institutes of Health (NIH), Public Health Service (PHS), Bethesda, Maryland

POSTDOCTORAL POSITION

The Genetics Section of the Arthritis and Rheumatism Branch of NIAMS is seeking a postdoctoral fellow with a strong background in molecular biology to study the genetics of inflammatory diseases. The current interest of the laboratory is the identification of gene causing the familial Mediterranean fever by positional cloning. Current projects include genetic and physical mapping, transcript identification, mutationdetection, and large-scale sequencing from the candidate region on chromosome 16. The position is available immediately. Applicants must submit a curriculum vitae, bibliography and three letters of reference to:

Dr. Daniel Kastner, MD, Chief, Genetics Section, NIH, NIAMS, Building 10, Room 9N-214, 10 CEN-TER DR MSC 1820, BETHESDA, MD 20892-1820. Voice: (301) 496-8364. Fax: (301) 402-0012.

E-mail: kastner@fmf.niams.nih.gov

NIH is an Equal Opprortunity Employer

Tenure-Track Position Pulmonary and Critical Care Medicine Branch NHLBI, NIH

The Pulmonary and Critical Care Medicine Branch (P-CCMB) of the National Heart, Lung, and Blood Institute is recruiting a junior clinical research scientist with an M.D. and board certification or eligibility in Pulmonary Disease and/or Critical Care Medicine to initiate an independent tenure-track program of combined clinical and laboratory research. The P-CCMB provides significant opportunities within the NIH Clinical Center for patient-oriented clinical research and it is expected that the successful candidate will take full advantage of these resources. The applicant will oversee and develop clinical protocols in pulmonary disease and share in the clinical responsibilities of the Branch. The applicant should have experience in basic and/or clinical research and an established record of publication in peer-reviewed journals in basic and/or clinical research. The successful candidate, although not necessarily having had experience in clinical research, will be expected to initiate, in addition to any laboratory-based research, a strong program of patient-oriented research in pulmonary disease. For individuals with clinical experience but without formal training in clinical research, programs and resources are available to aid in acquisition of the necessary knowledge and skills. Questions regarding the clinical research opportunities should be referred to Joel Moss, M.D., Ph.D., Chief, P-CCMB, at 301-496-1597. Salary will be based on experience and will be competitive. Applications must be received by July 31, 1997.

To apply, please send a curriculum vitae, bibliography, brief statement of research interests, and a patient-oriented, clinical research proposal detailing plans for utilization of the clinical research opportunities at the Clinical Center (if different from the research statement). In addition, three letters of recommendation should be sent to the address given below. The selection committee will weigh heavily the clinical research proposal in the choice of applicants for interviews and in the selection of the successful candidate. The clinical research proposal is especially important for those applicants who have not already conducted patient-oriented clinical research, but would like to share in the opportunities available at the NIH Clinical Center to combine patient-oriented and laboratory-based research.

Office of the Scientific Director, NHLBI Building 10, Room 7N214 10 Center Drive, MSC 1668 Bethesda, MD 20892-1668 NIH is an Equal Opportunity Employer





University of New Mexico School of Medicine

Six Tenure-Track Assistant Professor Positions in Biomedical Research With support from the Howard Hughes Medical Institute Research Resources Program, the University of New Mexico School of Medicine seeks outstanding applicants to fill six new tenure-track positions at the rank of Assistant Professor in the following areas:

Molecular Epidemiology :	Molecular Epidemiology of Cancer
Molecular Genetics and Oncology:	Fundamental Mechanisms of Tumorigenesis, Cell Cycle Regulation
	DNA Repair, Human Cancer Genetics
Cell Adhesion / Signal Transduction:	Receptor-Mediated Adhesion and Signal Transduction in Leukocyte
	Endothelial Interactions in Models of Inflammation, Angiogenesis, or Asthma
Metastasis / Motility / Extracellular Matrix:	Molecular and Cell Biology of Metastasis, Matrix, and Cell Motility in Models of Cancer and Development
Viral Immunology/Molecular Virology:	Immune Responses to Viral Infection, Viral Pathogenesis
Neurosciences:	Molecular Mechanisms of Neural Plasticity
Applicants must have an advanced degree (Ph.D., M.D	., or equivalent) and have completed post-doctoral or fellowship training

demonstrated productivity measured in publications and attempts to obtain/maintain extramural funding are highly desired. Successful candidates will be expected to develop a highly vigorous, competitive, and interactive research program and will participate in teaching medical and graduate students and post-doctoral fellows. Attractive start-up packages are available. Successful candidates will be appointed to an appropriate School of Medicine Department. Up to four applicants will be hired in 1997 and two in 1998. Details regarding each of these positions may be found at: http://somasf.unm.edu/hughes. Positions will remain open until successful candidates are identified. For best consideration in 1997, applicants should submit the following before June 9, 1997: a curriculum vitae, the names of three references, a concise description of their research program or plan, the position for which they wish to be considered, and their date of availability to: **Dr. Cheryl Willman, PI, HHMI Program, UNM SOM Research Office, BMSB, Box 520, Albuguergue, New Mexico, 87131-5196.**

Applicants must be eligible to work in the United States.

UNM School of Medicine is an Equal Opportunity/Affirmative Action Employer.

Vice Chancellor for Research University of Massachusetts Amherst

The University of Massachusetts Amherst is looking for a dynamic, visionary leader with a record of professional experience and accomplishment to help lead the University into the twenty-first century. The University of Massachusetts Amherst campus, the flagship of the five-campus University of Massachusetts system, and home to 1200 faculty members, 19,000 undergraduates, and 6000 graduate students, is poised to enhance its stature as a leading public university in the twenty-first century. With a current campus budget of \$490 million, including \$60 million in external support for research and scholarship, and an active outreach program, the University of Massachusetts Amherst is a land-grant, Carnegie I Research University with aspirations of joining the Association of American Universities in the near future.

As the chief research officer of the University, the Vice Chancellor for Research advances the research mission of the University and represents the University's research interests to federal and state governments, to industry, and to other national and international constituencies. Working closely with the faculty to encourage research and scholarly activities, the Vice Chancellor is responsible for overseeing all policies and procedures relating to research, technology transfer, and economic development. The Vice Chancellor for Research works closely with the Provost on the development of strategic directions and budgetary recommendations which encompass the full academic mission of the University. They have joint responsibility for the Graduate School and, together, provide leadership in the multiple missions of the University.

The Vice Chancellor for Research is part of the Chancellor's administrative team, which also includes the Provost, Vice Chancellors for Administration and Finance, Student Affairs, and Advancement, the Deputy Chancellor and Associate Chancellors, and also works cooperatively with representatives of the other four campuses and the central office of the five-campus system. The Vice Chancellor for Research has administrative responsibility for the offices of Research Affairs, Grant and Contract Administration, Technology Transfer, Sciences and Technology Advancement, Economic Development, Animal Care, and the University Press.

The qualifications for the position include:

- strong and well-articulated research vision and thorough understanding of the mission of a major land-grant research and teaching institution;
- strong commitment to the campus' strategic priorities, which include teaching and learning, advancing research and graduate education, promoting economic development, and embracing diversity and pluralism;
- · record of distinguished scholarship appropriate for appointment as a tenured full professor in an academic department of the University;
- significant academic administrative experience;
- demonstrated ability to work effectively with faculty members, students, staff members, administrators, and public and private funding agencies;
- full understanding of the contributions and requirements of scholars from all fields;
- familiarity with university patents and licensing.

The position will begin January 1, 1998. To ensure full consideration, nominations and applications, complete with a vitae, should be received by May 15, 1997. Acceptance of nominations and applications will begin immediately and continue until a candidate has been selected. Please send nominations and applications to Vice Chancellor for Research Search Committee, Chancellor's Office, 369 Whitmore Administration Building, University of Massachusetts, Amherst, MA 01003.

The University of Massachusetts Amherst is an affirmative action/equal opportunity employer.

Senior Microbiologist/ Research Scientist

ALZA Corporation, headquartered in Palo Alto, California, is a leader in the development and commercialization of innovative pharmaceutical products using advanced drug delivery technologies to add medical and economic value to drug therapies. Our continued success has created an excellent opportunity for an experienced professional to supervise/ manage the qualification and validation of aseptic manufacturing for implant products.

Working closely with product development team members, you will provide strong leadership and technical support in the design of production facilities and equipment, the development of aseptic manufacturing procedures, and the generation & conduction of validation protocols based on your expertise and current industry standards. You will also conduct process validation to ensure compliance with current regulatory requirements and generate microbiological documents for regulatory submission. You will also assume responsibility for all issues related to Microbiology in the area of non-sterile pharmaceuticals.

The position requires a BS/MS or Ph.D. in Microbiology or related discipline; at least 8 years' industrial microbiological experience; extensive knowledge as well as relevant working experience in the conduction and validation of aseptic manufacturing processes for devices, pharmaceuticals, or biologics; good managerial/motivational skills; and excellent problem solving, presentation and written/verbal communication skills.

Please send resume to: ALZA Corporation, HR Dept., Attn: Job# SC0418-HT, 950 Page Mill Rd., P.O. Box 10950, Palo Alto, CA 94303-0802. Fax: (415) 494-5656. TDD: (415) 494-5003. Or call our Job Hotline at (415) 494-5319. ALZA is proud to be an Equal

Opportunity Employer and welcomes applications from minorities & persons with disabilities.

NATIONAL INSTITUTES OF HEALTH DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE

RESEARCH BIOLOGIST - GS-401-13

The Computational Biology Branch of the National Center for Biotechnology Information seeks a Computational Biologist to perform research on methods for genome comparison and protein motif analysis. Applications will be invited from researchers having a Ph.D. degree in mathematics, computer science or physical sciences; and several years of postdoctoral research experience in the field of computational biology, and specifically computer methods for genome analysis. The incumbent must have a solid background in applied mathematics, probability and statistics as well as molecular biology. The position requires proficiency and extensive experience in C programming, parallel programming, and development of advanced WWW sites for projects in genome analysis. U.S. Citizenship is required. The salary will be in the range of \$51,000 to \$60,000 per year, commensurate with experience. Applications will be accepted if postmarked by 5/15/97.

For further information, please contact **Dr. Eugene Koonin** at (301) 496-2475. Applicants should send applications including a curriculum vitae, bibliography, and the names, addresses, and telephone numbers of three referees directly to:

> Chair Search Committee Eugene V. Koonin, Ph.D. National Center for Biotechnology Information National Library of Medicine NIH, Building 38A, Room 8N805 Bethesda, MD 20894 USA

Selection for this position will be based solely on merit, with no discrimination for non-merit reasons such as race, color, religion, sex, national origin, politics, marital status, physical or mental handicap, age, or membership or non-membership in an employee organization.

NIH is an Equal Opportunity Employer.



Working on the molecular level to conquer, treat, or prevent debilitating diseases.

DRUG DISCOVERY RESEARCH AT SCHERING-PLOUGH

At the Schering-Plough Research Institute in Kenilworth, NJ, scientists are discovering innovative therapeutic agents that challenge humankind's most debilitating diseases. If you are seeking an opportunity to be on the cutting edge of pharmaceutical discovery, become part of an advanced multidisciplinary research group focused on structure-based drug design.

Senior Scientist Macromolecular Crystallography

As a member of our Structural Chemistry Department, you will play a key role in determining structures of protein:inhibitor complexes and work with synthetic and computational chemists involved in structure-based drug design. To qualify, you will need a PhD in Chemistry or a related discipline and 0-4 years of postdoctoral experience. Background must include demonstrated expertise in difference Fourier methods and/or structure determination by MAD and MIR methods. Experience in protein crystallization is desired.

We offer an excellent compensation package including a competitive salary and comprehensive benefits. For prompt, confidential consideration, we invite you to apply on-line at **http://www.sp-research.com** or send a scannable resume and cover letter, original copy only, to our Resume Scanning Center at: Dept. DD96-65-BG, P.O. Box 92101, Los Angeles, CA 90009. We are an equal opportunity employer. We regret we are unable to respond to each resume. Only those selected for an interview will be contacted.





Senior Scientists and Technologists

MBI seeks experienced candidates with an advanced degree and strong scientific/engineering expertise to fill key leadership positions. MBI is interested in individuals with capabilities for the development and potential commercialization of novel products in the areas of functional foods/nutraceuticals, biomaterials, cellular and molecular biology, fermentation, animal feeds/nutrition and bioactive compounds. Qualified candidates will possess proven expertise in developing technology and proven ability to attract external R&D funding from government/ industry.

MBI's mission is to develop and commercialize products and technologies in an entrepreneurial, multidisciplinary environment. An independent, not-for-profit company, MBI possesses state-of-the-art equipment and a 120,000 square foot facility, including a 20,000 square foot, 3-story pilot plant for commercial scale up, validation, and toll manufacturing.

Regarded as one of the Nation's top 10 independent R&D institutes, MBI offers a very competitive salary/benefits package. For confidential consideration, send resume to: **MBI**, **Human Resources**, **P.O. Box 27609**, **Lansing**, **MI 48909**. MBI is an Equal Opportunity Employer.





CANCER GENETICS STANFORD MEDICAL SCHOOL

The Departments of Medicine and Genetics are searching for candidates for a tenure track faculty position at the rank of assistant or associate professor. The ideal candidate will have an MD with clinical training in medical oncology and a strong background and research accomplishments in the field of molecular genetics. We are especially interested in investigators who can explore the emerging human genome sequence information in innovative ways. A generous start-up package for an independent laboratory research program is available. Participation in clinical care activities in medical oncology and teaching in genetics will be expected. Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates. Please send curriculum vitae, a statement of career plans, and three names of references to: Ronald Levy, MD, Chief, Division of Oncology, Stanford University School of Medicine, SUMC M211, Stanford, CA 94305-5306.



Harvard Medical School Massachusetts General Hospital

Department of Anesthesia and Critical Care

Applications are invited for a post-doctoral or junior faculty position to study insulin resistance in critical illness. The objective of the research is to study derangements in signal transduction at and beyond insulin and other growth factor receptors. The long term goal is to attenuate insulin dysfunction and correct protein catabolism and muscle wasting of critical illness.

The post is funded by the NIH, with formal appointments at the above enumerated institutions. The successful candidate will have an interdisciplinary approach and support that would include the departments of anesthesia, medicine (endocrine) and surgery.

Strong research record in biochemical and molecular biological techniques is essential. Previous experience in the area of insulin-signaling is preferable/appropriate.

Closing date for application is June 1, 1997. Written applications, including C.V., with names and addresses of two referees, should be sent to:

J.A. Jeevendra Martyn, M.D. Department of Anesthesia and Critical Care Massachusetts General Hospital 32 Fruit Street Boston, MA 02114

RESEARCH POSITIONS

MOLECULAR NEUROBIOLOGY OF DRUG ABUSE

Fellow and senior fellow positions are available to pursue the molecular neurobiology and genetics of drug Candidates should have abuse. expertise in molecular biology and/or molecular genetics, with preference given to experience in neuropharmacology. Ongoing work examines the structure and function of the dopamine transporter/cocaine receptor μ opiate receptor/heroin receptor, genes regulated by abused drugs, and genes important for interindividual differences in substance abuse vulnerability in animal models and humans. If you hold a doctoral degree(s) and would like to be considered for a position, please send a cover letter, curriculum vitae with bibliography, statement of research interests and goals (not to exceed two pages), and three letters of rec-ommendation to: G.R. Uhl, M.D., Ph.D., Molecular Neurobiology, NIDA/NIH, P.O. Box 5180, Baltimore, Maryland 21224. Competitive salary levels with full benefits - an Equal Opportunity Employer. Candidates must be U.S. citizens or permanent residents.

MEETING

International Advanced Study Institute On Gene Therapy Island Of Spetsai, Greece August 17-28, 1997

This school, sponsored by NATO Science Affairs Division, NHGRI (NIH), EMBO, and ESH will be held for advanced graduate students and postdoctoral fellows in gene therapy, molecular biology, clinical medicine and related fields.

A combination of lectures, round table discussions, tutorials, and posters will emphasize the following topics: Principal mechanisms of gene expression, epigenic elements, gene delivery systems, viral vectors, non-viral vectors, animal models, inducible regulatory systems, gene therapy of cancer, gene therapy of AIDS, monogenic disorders and ongoing clinical trials. Confirmed lecturers:

Athanasios E. Evangelopoulos (Greece)

Henrik Garoff (Sweden)

Eric Kmeic (USA)

Fulvio Mavilio (Italy)

Erwin Wagner (Austria)

Jean-Michel Heard (France)

Jovan Mirkovitch (Switzerland)

Anthony Wynshaw-Boris (USA)

Stefan Karlsson (Sweden)

- Patrick Aebischer (Switzerland)
- R. Michael Blaese (USA)
- Ernst Bohnlein (USA)
- Claudio Bordignon (Italy)
- Fatima Bosch (Spain)
- Herman Bujard (Germany)
- Natasha Caplen (UK)
- Odile Cohen-Haquenauer (France)
- Olivier Danos (France)
- Barbara Demeneix (France)
 - neneix (France) Kleanthis G. Xanthopoulos

Attendance will be limited to 95 participants selected on the basis of their curriculum vitae, a description of their scientific background and interests and a letter of recommendation. Applications will be considered up to June 10, 1997. The applicants will be notified shortly after they have been accepted. There are no special application forms.

Upon acceptance, a fee of 400 USD (ca. 650DM) will be required to cover the costs for student accommodations, breakfast and lunch (arranged by the organizers). Participants will have to arrange and pay for their travel; a limited number of fellowships covering part of the costs may be available.

Organizing CommitteeSend Applications To:Odile Cohen-HaquenauerKaty PerryAthanasios E. EvangelopoulosConference CoordinatorStefan KarlssonNHGRI, NIH, Bldg 10, Rm 10C203Kleanthis G. Xanthopoulos (Chairman)Bethesda, MD 20892-1852, USAFax (301) 496-7157Fax (301) 496-7157http://www.nhgri.nih.gov/DIR/CGTB/ASIEmail kperry@nhgri.nih.gov

NATIONAL INSTITUTES OF HEALTH National Heart, Lung, and Blood Institute HEALTH SCIENTIST ADMINISTRATORS

Bethesda, Maryland

The Division of Lung Diseases is seeking individuals experienced in immunology, inflammation, virology, molecular biology and/or cell biology to provide administrative scientific support in the management and development of the division's acute lung injury and asthma extramural grant programs.

Candidates must have a M.D., Ph.D. or equivalent, postdoctoral research experience and a strong desire to pursue an administrative non-laboratory career track. The candidates selected will provide leadership for established national programs and develop new programs in his/her area of expertise. Areas of primary interest include acute lung injury and asthma. Specifically, the individuals selected would have responsibility for planning, developing, managing, and evaluating a grant/contract program supporting basic and clinical research. Responsibilities include iden tifying research priorities, organizing scientific meetings, and closely interacting with leading researchers in the field.

Applicants must be U.S. citizens. Appointment at a Health Scientist Administrator, GS/12-13 level (\$45,939 to \$71,017) or Medical Officer (Research), GS/12-13 level (\$51,470 to \$78,203) anticipated. A Physicians Comparability Allowance may be paid. As a Medical Officer, the incumbent's specific area of expertise is in internal, pulmonary, or critical care medicine.

Call for information or application procedures. Reference vacancy announcement number HL-97-0034. Vacancy to close June 2, 1997. Applications must be postmarked as of the closing date.

National Institutes of Health Personnel Office, NHLBI Building 31, Room 5A28 31 Center Drive, MSC 2484 Bethesda, Maryland 20892-2484 (301) 496-6477 NIH is an Equal Opportunity Employer The Blood Center of Southeastern Wisconsin, an internationally recognized leader in molecular hematology, transplantation immunology, and transfusion medicine research, is seeking outstanding candidates to fill post-doctoral and research scientist positions at The Blood Research Institute.

Located adjacent to the Medical College of Wisconsin, The Blood Research Institute provides state-of-the-art facilities, and offers an excellent environment for scientific interaction and interdisciplinary collaboration. Opportunities are periodically available with Blood Center scientists in the following areas:

Richard H. Aster, MD-Pathogenesis of drug-induced blood dyscrasias

James Augustine, PhD-Signal transaction in platelets

David D. Eckels, PhD-Immunology of hepatitis C virus

Jack Gorski, PhD-Structure/function analysis of HLA-DR; Tcell repertoires Jerome Gottschall, MD-Endothelial cell injury in TTP/HUS

Cheryl Hillery, MD-Red blood cell adhesion in sickle cell disease

Dermot Kenny, MD-Canine models for platelet endothelial cell interactions Philip Kroner, PhD-Interaction of von Willebrand factor with GPIb/IX on platelets

Peter J. Newman, PhD-Cell adhesion and signaling in vascular cells

Debra Newton-Nash, PhD-T cell recognition of the human MHC complex Peter J. Sims, MD, PhD-Immune rejection and dysfunction of platelets and endothelium

Gian P. Visentin, MD-Heparin induced thromocytopenia

Therese Wiedmer, PhD-Regulation of membrane phospholipid asymmetry

Hartmut Weiler, PhD-Structure, function, and regulation of thrombomodulin

Applicants should send curriculum vitae, a brief description of recent research, and the names and telephone numbers of three references to: **Director** of Research, Blood Research Institute, The Blood Center of Southeastern Wisconsin, Inc., P.O. Box 2178, Milwaukee, WI 53201-2178

The Blood Center of Southeastern Wisconsin is an equal opportunity/affirmative action employer. Minorities and women are encouraged to apply. **GLOBAL CAREER OPPORTUNITIES**

UNIVERSITY OF THE WEST INDIES Cave Hill Campus, Barbados

TEMPORARY LECTURER/ASSISTANT LECTURER IN ORGANIC CHEMISTRY Department of Biological and Chemical Sciences

Faculty of Science and Technology

Applications are invited from suitably qualified persons for the above post. Applicants should have completed a PhD. Some experience of formal lecturing and supervision of undergraduate practical classes is also desirable. **The appointment is for two years.** The successful applicant will be expected to assume duties by 1 July 1997 or as soon as possible thereafter.

SALARY SCALES (per annum): Lecturer BDS\$45,372 x 1956 - BDS\$57,108 (Bar) x 1956 - BDS\$68,844; Assistant Lecturer BDS\$37,476 x 1824 - BDS\$41,124.

Up to five full economy class passages. Baggage allowance of US\$1800 for married persons and US\$1200 for single persons on appointment and normal termination. Special allowance up to US\$600 for shipment of academic books and teaching/research equipment on appointment. Unfurnished accommodation at 10% of basic salary or optional housing allowance of 20% of basic salary to staff making own housing arrangements. UWI contribution of equivalent of 10% of basic salary to Superannuation Scheme. Annual Study and Travel Grant for self, spouse and up to three children. Book Grant up to BDS\$935 per annum. Detailed applications (three copies) giving full particulars of qualifications and experience, date of birth, marital status and the names and addresses of three referees should be sent as soon as possible to the Campus Registrar, University of the West Indies, Cave Hill Campus, PO Box 64, Bridgetown, Barbados. In order to expedite the appointment procedure, applicants are advised to ask their referees to send confidential reports direct to the Campus Registrar without waiting to be contacted. The University will send further particulars for this post to all applicants. These particulars may also be obtained from Appointments (45713), Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, UK (tel. (0171) 387 8572 Ext. 206; fax (0171) 813 3055; email appts@acu.ac.uk).

UNIVERSITY OF VIRGINIA DEPARTMENT OF CELL BIOLOGY

Postdoctoral Fellowships available in Immunocontraception and Cell and Molecular Biology of Spermatogenesis and Sperm Maturation. Research opportunities include gene regulation during spermiogenesis, autoimmunity to sperm, sperm-egg interactions, and development of sperm surface antigens as immunocontraceptives. The research preceptors are Dr. John C. Herr, Ph.D., and Dr. Charles J. Flickinger, M.D. Enquire: J.M. Kitchen-Pindera, Department of Cell Biology, Box 439, Health Sciences Center, University of Virginia, Charlottesville, VA 22908, (804) 924-1202, e-mail: jmk@Virginia.EDU.

National Parks Science Scholars Program

A collaboration of the American Association for the Advancement of Science National Park Service Canon U.S.A., Inc. National Park Foundation The **National Parks Science Scholars Program** will award Canon Environmental Legacy Scholarships to four graduate students in 1997. Students selected will receive \$25,000 per year for up to three years to conduct research in parks across a variety of disciplines within the physical science, biological sciences, social sciences and cultural sciences.

The 1997 competition will focus on four research topics of critical importance to the management of the national park system. Students applying for the 1997 program must submit dissertation proposals that address these topics selected by the National Park Service.

For an application and guidelines, contact Dr. Gary Machlis, National Parks Science Scholars Program, U.S. Department of the Interior, National Park Service, P.O. Box 37127, MIB3127, Washington, D.C. 20013-7127 or e-mail gmachlis @ uidaho.edu or call (202)208-5391.

Applications are due June 15, 1997. Winners will be announced August 15, 1997.

DIRECTOR PHARMACEUTICAL DEVELOPMENT

Battelle, a world leader in the development, application and management of evolving and state-of-the-art technologies, is seeking a Director of Pharmaceutical Development. The candidate will join the Pharmaceutical Product Development Division in Columbus, OH to provide leadership and work with a multi-disciplinary team, outside contractors, vendors, academic personnel and the FDA.

This position requires a Pharm.D. or Ph.D. in Pharmaceutics, Chemistry, Physical Chemistry or related disciplines, with at least five years' experience in the development of inhalation or injectable formulations. Must possess a thorough familiarity with the manufacture of sterile products and be capable of designing stability protocols, microbial challenge and compatibility tests, in-depth knowledge of chemistry, manufacturing and controls requirements for drug registration, creativity as well as excellent oral and written communications and interpersonal skills required.

Battelle offers competitive salaries, comprehensive benefits, including relocation, and opportunities for professional development. Please send your resume to: Battelle, Dept. N78, 505 King Avenue, Columbus, OH 43201-2693. Battelle is an Equal Opportunity/Affirmative Action Employer M/F/D/V.



GLOBAL CAREER OPPORTUNITIES

As a major Pharmaceutical Company well established at an international level, our success depends upon the dynamism of our research directed towards the discovery of novel drugs.



In our Research **Center** located in the Paris area, we seek to recruit a young scientist for a

The successful candidate has a PhD and will be involved in studies in the following fields :

•Vascular reactivity •Electrophysiology of vascular smooth

muscle : function of the endothelial cells, interaction endothelium/smooth muscle,

patch clamp, microelectrode. The position is vacant for 18 months.

Applications with curriculum vitae, photograph and handwritten letter are to be sent to PUBLIVAL/4006 27 Route des Gardes 92190 MEUDON (FRANCE)



TANABE RESEARCH Laboratories, USA, Inc.

Director of Biology

Tanabe Research Laboratories USA, Inc. is an established drug discovery laboratory dedicated to the design and synthesis of small molecules for development as anti-inflammatory therapeutics. As the U.S. subsidiary of Tanabe Seiyaku, Tanabe Research Laboratories (TRL) is committed to innovation through world class programs and scientific staff.

To further our drug discovery program TRL is currently seeking a Director of Biology. Successful candidates will have either an M.D./Ph.D. or D.V.M. degree with 7-10 years experience leading innovative Biological Sciences teams in molecular and/or in vivo pharmacology. We are looking for candidates that have demonstrated ability to work with all levels and departments of scientific staff in setting project priorities, providing scientific and administrative direction and establishing a stimulating tone of superior intellectual and scientific exploration.

Along with a highly competitive salary, the selected candidate will enjoy an outstanding benefits package including medical/dental/life insurance and a company matched 401(k) plan. If you're interested in working in a state-of-the-art facility as part of a highly motivated group of scientific professionals, submit your resume along with a cover letter and the names of three references to: Tanabe Research Laboratories USA, Inc., Attn: L. Smith, 4540 Towne Centre Court, San Diego, CA 92121 or fax: (619) 558-0650 or email: kmith@trlusa.com.

Research Associate, Chemistry

TRL is also seeking candidates for 2 research associate positions in our Chemistry Department. Successful candidates will work under the supervision of a senior chemist and conduct multi-step synthesis, isolation, purification and characterization of novel compounds for biological evaluation. An M.S. or B.S. in organic chemistry with 3-5 years experience is required. Send resumes to L. Smith, TRL, 4540 Towne Centre Court, San Diego, CA 92121 or fax: (619) 558-0650.

Department of Pharmacology University of Minnesota Medical School **TENURE/TRACK POSITION** (Assistant Professor, Associate Professor and Professor)

The Department of Pharmacology at the University of Minnesota Medical School is growing, and we are inviting applications for a tenure/track faculty position. Successful candidates are expected to establish an outstanding, independent research program, in addition to participating in team-taught undergraduate/graduate medical courses in the area of molecular pharmacology. Requirements for Assistant Professor positions include a Ph.D. in Pharmacology or other basic medical sciences or an M.D., and at least 2 years of postdoctoral research experience. Candidates with a strong research background and experience in using state-of-the-art approaches involving cellular, molecular, genetic or biophysical techniques to study problems relevant to pharmacological sciences are preferred. Applicants must have demonstrated involvement in research and published in leading peer-reviewed journals.

Appointments as Associate Professor (Tenured) or Professor (Tenured) will be considered for applicants with professional distinction in published research, teaching and evidence of consistently attracting extramural funding for research. Appointments at these ranks must meet the minimum qualifications established by the University of Minnesota.

Applicants should indicate the rank they are applying for and send a copy of their curriculum vitae, reprints of important publications, a statement of research plans and names of three references to: Chairperson, Pharmacology Search Committee, Department of Pharmacology, 3-249 Millard Hall, University of Minnesota, 435 Delaware Street, S.E., Minneapolis, MN 55455. Review of applications will begin May 9, 1997. Position will remain open until it is filled. University of Minnesota is an equal opportunity educator/ employer and offers an excellent academic research environment. For further information about the Department of Pharmacology and its programs, access the Department's home page http:// brain.med.umn.edu/index.html on the internet.



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