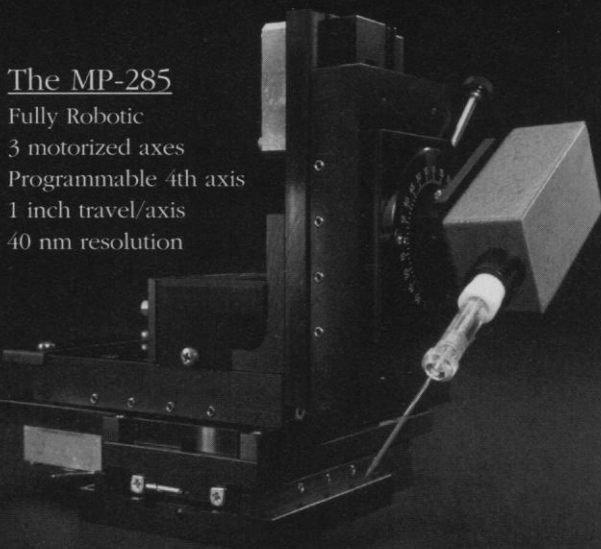


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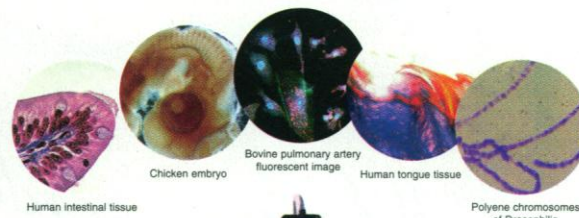


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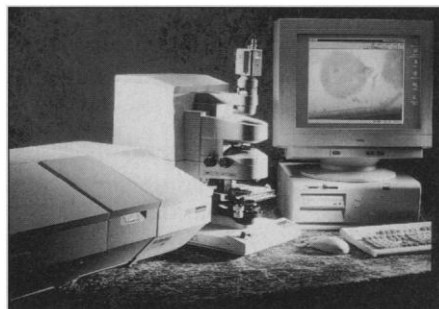
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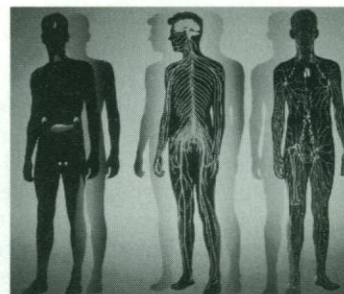
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Functional genomics, proteomics, pharmacogenomics, signal transduction, vaccines, combinatorial chemistry, and high-throughput screening.

by Michael Woods

1998, 1999 and Beyond

Ask scientists to define a hot career, and most talk about opportunity, research on the cutting edge, the mobility to transition from one position to another, and the excitement of pioneering the science behind tomorrow's breakthrough drugs. We have chosen seven fields that measure up in every respect.

Functional genomics, proteomics, and pharmacogenomics are new pursuits fast gaining momentum due to massive volumes of data—and profound insights—emerging from animal and plant genome projects. Signal transduction is the new name for research, formerly spread out over several disciplines, now assuming its own identity thanks to other scientific advances. Vaccine research is an established career field racing down promising new paths opened by the biotechnology revolution. Combinatorial chemistry is the elder statesman of the batch, fast approaching maturity, that has engendered another hot career, high-throughput screening.

For our survey, we consulted experts at:

- **ARIAD Pharmaceuticals, Inc.**
- **Cadus Pharmaceutical Corporation**
- **Chiron Corporation**
- **Hewlett-Packard Company**
- **MedImmune, Inc.**
- **NetGenics, Inc.**
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Due to expansion at our **New Jersey** facilities within the Department of Drug Metabolism and Pharmacokinetics, we are seeking **numerous** scientists at **various** levels to work within each of the following areas: Pharmacokinetics, Bioanalytical, Drug Disposition, CRO Monitoring and Technical Documentation.

PHARMACOKINETICS

Pharm. D. or Ph.D. in Pharmacokinetics, Biopharmaceutics or a related discipline and industrial/academic experience in designing and analyzing pharmacokinetic studies with emphasis on population PK analysis and PK/PD modeling, or conducting/supervising pharmacokinetic analysis, interpreting and presenting results, and preparing reports for both clinical and nonclinical studies. Responsibilities could also involve building PK/PD correlations and applying them to drug development.

Ph.D. in Statistics and industrial/academic experience in the pharmacokinetics area, including PK/PD modeling techniques or population analysis (NONLIN, NONMEM, etc.). Areas include toxicokinetics, clinical PK, PK/PD modeling and associated statistical aspects.

BIOANALYTICAL

MS in Chemistry, Computer Science or related discipline with 5+ years of experience, or a BS with 7+ years, in computer validation (preferably of chromatographic data systems and software) and experience with bioanalytical methodology. Responsibilities involve performing systems software validation of bioanalytical data acquisition systems as well as monitoring selected contracted work involving methods validation of chromatographic data systems and software.

DRUG DISPOSITION

BS, MS or Ph.D. degree in Pharmacology, Chemistry or a related discipline and 2+ years of experience in drug metabolism and/or bioanalytical method development. Studies involve analytical method development; analysis of biological samples for drugs and/or metabolites; and metabolite profiling, isolation and identification. Senior level opening involves the design and conduct of in vivo drug disposition studies and a strong background in study design and conduct (absorption, distribution, metabolism and excretion).

Opportunities in autoradiography require a BS or MS with 2+ years of experience in whole body autoradiography studies or a strong background in anatomy, histology and tissue sample preparation. Responsibilities include sample preparation, analysis of micro- and macro-autoradiography data and data documentation.





CRO MONITORING

BS, MS or Ph. D. in Chemistry, Biochemistry or related discipline and experience involving bioanalytical methods validation, routine sample analysis, GLP guidelines and monitoring Contract Research Organizations (CROs). Responsibilities include providing support for contracted preclinical and clinical bioanalytical projects including preparation and review of protocols, monitoring studies, reviewing data and reports, as well as coordinating and tracing projects.

TECHNICAL DOCUMENTATION

Requires a Ph.D. in Pharmaceutical Sciences and experience demonstrating in-depth knowledge of drug metabolism and pharmacokinetics along with excellent technical writing skills. Responsibilities involve the preparation of preclinical documentation for domestic and international submissions of new drugs, summaries for annual IND/NDA reports, and responses to questions from world-wide regulatory agencies.

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BIOLOGICAL SCIENCES

BS/MS Scientist – Allergy and Respiratory

You will be responsible for the development of models of pulmonary inflammation and *in vivo* pharmacology studies. Requires proficiency in various dosing protocols, tissue collection/processing, and biochemical analysis of samples using methods including enzyme assays, ELISAs, RIAs. BS in Biology and experience with *in vivo* pharmacology and biochemical analyses required; MS and pharmaceutical industry experience desirable. Experience in pulmonary pharmacology or immunology and strong computer skills preferred. Job Code: 2872

Ph.D. Research Scientist– Allergy and Respiratory

We are seeking a Biochemist working in the field of cytokine signal transduction to join an active, multidisciplinary team of investigators in the discovery of novel agents for the treatment of allergic and respiratory diseases including asthma and allergic rhinitis. Ph.D. in Immunology, Biochemistry, or related field and a minimum of 3 years of post-doctoral signal transduction research experience is required. Successful candidate will have a demonstrated record of independent and creative research on biochemical pharmacology of cytokine signal transduction. Job Code: 2873

Ph.D. Research Scientist – Immunology

We are seeking an *in vivo* Immunologist to join a multidisciplinary team of scientists dedicated to the discovery of novel immunosuppressive drugs for the treatment of transplant rejection and autoimmune disease. The principle responsibilities of this individual include establishing and validating models of transplantation and autoimmune disease, evaluating *in vivo* pharmacodynamics and disease efficacy of candidate compounds. Ph.D. in Immunology or related field with expertise in the characterization of *in vivo* models is required. Job Code: 2874

Ph.D. In Vivo Cardiovascular Pharmacologist/Physiologist

Be part of a team working on the discovery of novel cardiovascular drugs for congestive heart failure and myocardial ischemic injury. Primary responsibilities include supervision of a laboratory focused on the development of acute and chronic *in vivo* models to evaluate drug efficacy and new therapeutic approaches. Ph.D. or equivalent degree in Physiology or Pharmacology or related fields of biological sciences with 3+ years of post-doctoral experience and broad experience in measurements of cardiovascular function and blood flow is required. Skills in histopathology techniques and in the measurements of blood chemistry and neurohormones, as well as experience with *in vivo* models of congestive heart failure and myocardial ischemic injury is highly desirable. Pharmaceutical research experience in a drug discovery laboratory preferred. Job Code: 2875

Ph.D. Research Scientist – Cardiovascular/Muscle Metabolism

Work on the discovery of novel cardiovascular drugs for the treatment of congestive heart failure and ischemia reperfusion injury. Primary responsibilities include supervision of a laboratory focused on the development of experimental models to evaluate drug efficacy and new therapeutic approaches. Ph.D. or equivalent degree in Biochemistry, Pharmacology or related fields of biological sciences with 3+ years of postdoctoral experience and extensive background in cardiovascular/muscle metabolic pathways associated with normal and disease states is required. Specific training in cell biology, protein biochemistry, kinase pathways, assay development, and molecular biology is desirable. Pharmaceutical research experience in a drug discovery laboratory is preferred. Job Code: 2876

DRUG METABOLISM

BS/MS Scientist

Working in either preclinical or development phases of novel drug discovery, you will conduct *in vivo* and *in vitro* drug metabolism and pharmacokinetic/toxicokinetic studies through the use of *in vitro* metabolism and absorption studies, *in vivo* administration of drugs, collection of biological samples, and development/utilization of bioanalytical methods for monitoring drugs and metabolites using state-of-the-art technology. BS in Biochemistry, Chemistry, or Pharmaceutical Sciences is required. MS degree with experience in HPLC, LC/MS and/or *in vitro* metabolism techniques (microsomes, slices, and recombinant enzymes) with some GLP background is preferred. Job Code: 2877

PROTEIN STRUCTURE

Post-Doctoral X-Ray Crystallographer

We seek a scientist interested in a Post-Doctoral opportunity targeted at understanding the atomic basis of isozyme specific regulation of human glycogen phosphorylases by phosphorylation and allosteric effectors. These studies will focus on the X-ray structural determination of phosphorylases in different functional states and correlation of the structural results with kinetic and biochemical analyses. This position will be 36 months in length, with the first 18 months to be spent at Pfizer in the laboratory of Dr. Virginia Rath and the second 18 months to be spent at the University of California in San Francisco in the laboratory of Dr. Robert Fletterick. The successful applicant will have a strong background in all aspects of X-ray crystallography as well as expertise in the expression, purification and biochemical characterization of proteins. Publications in these areas are required. Job Code: 2878

TECHNOLOGIES

BS/MS Scientist – Precandidate Toxicity Screening

You will develop, optimize and operate high throughput *in vitro* toxicity assays to predict the potential toxicological effects for early drug candidates. BS/MS in Biological Sciences with at least 1 year of laboratory experience involving tissue culture is required. Familiarity with computer applications such as Excel and Word is desirable, as is experience in other biological areas or high-throughput screening. Job Code: 2879

Ph.D. Research Scientist – Precandidate Toxicity Screening

You will develop, establish and supervise *in vitro* toxicology assays that are predictive of potential toxicological effects for early drug candidates. Responsibilities include developing novel *in vitro* assays that are predictive of *in vivo* toxicity; implementing strategies and automation to increase assay throughput; and collaborating with scientists from diverse disciplines to support the development of successful drug candidates. Ph.D. in Toxicology, Pharmacology or other Biological Sciences with 5 years of relevant experience is required. Experience in the development of *in vitro* toxicology assays is essential; experience with automation and computer applications/programming is desirable. Job Code: 2880

Research Scientist – Bioinformatics

You will develop and apply computational methods for the analysis of genome data in the context of drug discovery; and create databases and tools for gene family analysis, gene chip design, sequence motif detection and expression pattern discrimination. Experience with current bioinformatics methods and programming skills in SQL and Perl in a Web-based environment are essential. Job Code: 2881

MOLECULAR SCIENCES

Ph.D. Research Scientist – Neuroscience

We are seeking to expand our efforts in CNS Discovery to identify drug candidates in the areas of neurodegeneration and psychotherapeutics. You will supervise a laboratory that contributes to project teams by using molecular and cell biology techniques to identify and validate new targets for drug screening. Ph.D. with 2 years' Post-Doctoral experience and a strong background in molecular biology and neuroscience, including experience in library construction and screening, gene/cDNA cloning, RT-PCR, genetic database searching, immunohistochemistry, heterologous protein expression, and tissue culture required. Job Code: 2882

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FUNCTIONAL GENOMICS:

Andrew Murphy, Cadus
Pharmaceutical Corporation

The biopharmaceutical industry's hunt for gene function is shifting into high gear. The challenge: use a variety of laboratory and computational techniques to transition beyond genome mapping and sequencing in humans and other model organisms. Discover the secrets of how genes work individually, how they interact with other genes in networks and cascades, how they malfunction in disease states, and which genes deserve further investigation as drug targets.

Andrew Murphy, group leader for molecular biology with Cadus Pharmaceutical Corporation, Tarrytown, New York, is in the thick of the functional genomics action right now. He heads a major Cadus functional genomics collaboration with SmithKline Beecham that focuses on one of the hottest areas in this hot field—G protein-coupled receptors.

"Functional genomics research is a really exciting place to be right now," Murphy noted. "The job market is very good, and I expect demand for skilled scientists to increase over the next five to ten years. People working in functional genomics can tackle big challenges that promise equally big remarks in terms of drug discovery and new ways of preventing and treating disease."

What kinds of challenges? The challenge of finding function in the flood of sequence data pouring out of the Human Genome Project (HGP) and genome projects in other organisms. Estimates suggest, for instance, that barely 6,000 of the 60,000 to 100,000 human genes have been functionally characterized. Microbial and other genome projects are further enriching the pool of genes whose function remains to be discovered. The results of each microbial genome project—such as *Helicobacter pylori*, *Mycobacterium tuberculosis*, and *Treponema pallidum*—reveal every single potential drug and vaccine target.

Individuals who want to join the search for those targets should have a strong general background in biology and specialized knowledge and skills in molecular biology, Murphy said. Good undergraduate and graduate degrees include biochemistry, biology, or molecular biology. Murphy followed such a path into the field. He got an undergraduate degree in molecular biology, moved on to a Ph.D. in genetics, and joined Cadus as one of its original scientists.

With computational biology such a central part of functional genomics, computer skills also will be critical. Research in functional genomics often involves use of a scripting language such as Practical Extraction Report Language (PERL), database skills with Structured Query Language (SQL, or "see-quill"), and, of course, Java or C programming.

Not every researcher just entering functional genomics needs mastery of these computational skills, Murphy said. Many scientists pick up computer skills as they work. But scientists must have enough computer literacy in these areas to communicate effectively with their bioinformatics colleagues. Over the next few years, knowledge of animal models and the most effective ways of using them in functional characterization of genes may become more important, Murphy added.

Myths and Misconceptions: "Doing productive research in functional genomics requires more than core molecular biology skills. It takes broadly based knowledge of biology, human physiology, and disease states. When you move from a gene to function, it can lead almost anywhere. The broader your knowledge of biology, the better the chances of recognizing the gene's function and its implications for drug discovery and development."

PROTEOMICS:

Anthony Recupero, Netgenics, Inc.

The genomics revolution is roaring ahead, giving the biopharmaceutical industry sequence data on thousands of genes that are potential targets for drug discovery and development. What lies ahead in the post-genomics era, when all 100,000 or so human genes are in the databases? Ask many folks involved in biotechnology, and they talk with great enthusiasm about "proteomics," a newly emerged parallel field.

Just as "genome" describes the entire genetic complement of an organism, "proteome" refers to its entire protein complement. Genomics provides gene targets for drug discovery and development. Proteomics focuses more on the dynamic output of the genome, on protein-level changes that underpin disease processes.

That focus makes proteomics complex, challenging, and

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Associate Research Scientist - This position requires a BS or MS with 2-3 years of research experience in the area of vascular biology to evaluate novel compounds in cell and animal models of vascular disease. Experience in immunohistochemistry and molecular biology would be a plus. Respond to Princeton, NJ address. **Code: PRTG54MK**

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The Dow Chemical Company, which, along with Dow AgroSciences LLC, recently announced a strategic research alliance with Biosource Technologies, Inc., provides you a rewarding career opportunity with unique flexibility.

With over ten years of experience in cutting-edge research in plant and microbial genetic manipulation, our biotechnology program is poised for substantial growth. Dow AgroSciences' unique technical effort offers that hard-to-find balance of entrepreneurial opportunity and long-term stability. It's a powerful combination that attracts innovative and ambitious research professionals to our state-of-the-art labs and research campus in Indianapolis.

Because we believe in the importance of moving forward to meet the needs of a growing world population, we have made a substantial investment in biotechnology. By researching, developing, and marketing genetically enhanced crops, we will take a leading role in shaping the future of global agriculture. If you would like to share in this exciting endeavor, consider joining us in one of the nearly thirty new research positions now available:

Plant Physiologist

Ph.D., M.S., and B.S. level will be responsible for the optimization and development of physiological screens focussed on the analysis of complex traits such as yield and characterization of plant metabolic pathways. Successful candidates will be responsible for the development of high throughput screens using robotics and state-of-the-art technologies. **Department code: DASPP-IS**

Molecular Biologist

Ph.D., M.S. and B.S. levels are required to assist in the development of libraries, vector construction, high throughput expression analysis and screening of genes in transgenic plants. Experience in genomics technologies and strong molecular biology skills are essential. **Department code: DASMB-IS**

Biochemist

Candidates must have broad background in plant physiology, biochemistry and chemistry, typically gained from a Ph.D. degree and post-doctoral training. Experience with instrumentation (GC, LC and mass spec) is desirable. Must have demonstrated skills in leading and developing fellow scientists, implementation and ownership of projects. **Department code: DASB-IS**

Protein Biochemist

M.S. and B.S. levels will be responsible for research in protein isolation and characterization. Successful candidates will work as part of highly motivated teams in our exceptionally well equipped biochemistry group. **Department Code: BPGB-IS**

Analytical Chemist

BS/MS analytical chemists up to 5 years work experience in analytical chemistry, GC or HPLC experience instrumentation. Must be able to work in a fast-paced atmosphere where large numbers of samples must be analyzed daily with very accurate, reproducible results. **Department code: DASAC-IS**

Bioinformatics Technical Leader

Ph.D. (or equivalent) for individual capable in management of a Bioinformatics Group which provides state-of-the-art support for the Genomics and Biotechnology Departments. Successful candidate will have background in bioinformatics and a good understanding of molecular biology. Experience in UNIX servers, LIMS and Oracle databases preferred. **Department code: DASBTL-IS**

Bioinformatics Specialists

B.S. or M.S. candidates up to 5 years of experience will develop database and provide on-going technical support to the Genomics and Biotechnology Departments high throughput robotics systems. **Department code: DASBS-IS**

Quantitative Genetics

Successful Ph.D. candidates will demonstrate expertise in quantitative genetics, statistics, use of relational databases and a working knowledge of plant breeding. **Department code: BPGGT-5S**

We offer an excellent salary/benefits package, individualized scheduling, and a beautiful headquarters location which includes learning facilities, health and fitness programs and equipment, and a nature preserve with walking trails. Indianapolis, Indiana provides all the cultural advantages of a major metro area plus the comfortable hospitality of the Midwest. Interested candidates should send a letter of interest, resume, transcripts and references by **Dec. 1st, 1998**, to: **Dow AgroSciences LLC, Human Resources Recruiting (please indicate Department Code), 9330 Zionsville Road, Indianapolis, IN 46268-1054**. Be sure to visit our website at www.dowagro.com.



Dow AgroSciences

Dow AgroSciences offers challenging opportunities within a stimulating and diverse work environment. We are an affirmative action/equal opportunity employer.



...A Revolution in Plant Functional Genomics

Over the past eleven years Biosource Technologies, Inc. has developed novel genetic transformational technologies for expression of foreign genes in plants. Biosource is the world leader in virus-based gene expression systems for plants, and uses its proprietary GENEWARE™ viral vectors for rapid expression, systemic knockout, and high-throughput screening of genetic sequences in higher plants. Biosource is applying its revolutionary genomics technology to the discovery of gene-based products for agricultural, industrial, pharmaceutical, and animal health markets.

Biosource Technologies, Inc., has recently established a new division, Biosource Genomics, and has assembled a high-powered team of top plant molecular biologists and plant virologists. We are now recruiting for a group of exceptionally motivated, creative, and visionary individuals to join forces with us in our state-of-the-art Northern California facility located 30 minutes from the world famous Napa Valley, and 45 minutes from the San Francisco Bay area. We offer the excitement of an entrepreneurial start-up, plus the committed resources of two respected industry leaders, Dow AgroSciences LLC and The Dow Chemical Company.

Candidates at the Ph.D./M.S./B.S. level are encouraged to apply in the following skill areas (up to 24 open positions). Candidates having several years of experience at major university or corporate genomic centers are especially desired. We anticipate hiring at the Research Scientist, Senior Scientist, and Research Director level within each category.



Genomic and cDNA library construction

The successful candidates must have proven expertise in phage and plasmid-based genomic and cDNA library construction from plant material, skills in relevant cDNA normalization, equalization and subtraction methods, ability to characterize and enrich libraries for full-length cDNAs representing low-abundance mRNA species, high-throughput PCR, and automated DNA sequencing. **Department code: HR-G10**

High-throughput robotic screening and laboratory automation

We seek skilled lab automation experts to expand and continually innovate our state-of-the-art robotics facility. The facility supports a high-throughput screening lab designed to identify novel agricultural gene products and phenotypic traits. You will interact with automated efforts in DNA manipulation, proteomics, and LC/MS analysis. Industrial experience with integrated robotics systems, workstation-based approaches, and data management programs and LIMS are essential. **Department code: HR-G11**

High-throughput DNA sequencing

We seek candidates to participate in the operation of a cutting-edge DNA sequencing facility with emphasis on high quality, rapid turnaround, state-of-the-art sequence generation and bioinformatic analysis, expertise in DNA template preparation and QC, robotic set-up of sequencing reactions, electrophoresis, data capture, data analysis and software/instrument troubleshooting. Ability to manage and track large plasmid libraries, skilled in UNIX, LIMS, databases, and liquid-handling robotics is essential. **Department code: HR-G12**



Bioinformatics, database administration, and computational biology

We are seeking bioinformatic specialists at all levels with knowledge of molecular biology, genetics, or genomics. Expertise with DNA and protein sequence databases and the common tools for analyzing and manipulating sequence data, programming skills (C, C++, Perl, VB or Java), database management systems (UNIX/Oracle environment) is essential. Experience with structured design in a production-scale data collection environment is especially useful. **Department code: HR-G13**

Plant molecular biology, plant biochemistry, plant physiology, and plant virology

Experienced researchers are sought in all areas of modern plant biotechnology, signal-transduction pathways, transcription factors, metabolic pathway engineering and analysis, and high-throughput assay development aimed at biochemical and physiological trait identification. Experience with virus expression systems especially advantageous. We prefer individuals with several years of relevant industrial experience. **Department code: HR-G14**

Please submit a detailed CV with cover letter indicating department code and the names of three references to: **Biosource Technologies, Inc. (Dept. 052), 3333 Vaca Valley Parkway, Vacaville, CA 95688.** Biosource is an equal opportunity employer.

Visit our website at www.biosource-technologies.com



Biosource Genomics™



The paths you take to find answers sometimes lead to more questions. But with diligence, sometimes great discoveries are made and humankind benefits. SmithKline Beecham, a global leader in Research and Development, continues to pioneer innovative pharmaceuticals, healthcare products, and services. Explore the growth opportunities at our state-of-the-art facility in suburban Philadelphia.

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MOLECULAR BIOLOGY SCIENTISTS

We are seeking scientists with molecular biology expertise to join our Molecular Biology Department. You must have proven experience in standard RNA/DNA methodologies including cDNA cloning, RT-PCR, Northern and Southern blotting, colony hybridization, and other recombinant DNA techniques. We require a BS with 3-5 years' experience, or MS with 1-3 years' experience; along with excellent verbal/written communication skills; and the ability to work in a matrix team environment. Experience with microarray technologies and robotics is a plus. (Job Code: H8-0313S)

GENE EXPRESSION TECHNOLOGIES SCIENTISTS

Our Department of Gene Expression Sciences is seeking scientists with expertise in developing and utilizing recombinant gene expression technologies, with experience in mammalian, insect, and microbial expression systems. The department has world-wide responsibilities for producing molecular targets and therapeutic proteins using bacterial, insect, and mammalian cell culture systems and works to define the function of the products produced in a highly integrated manner with scientists throughout the research organization. You will apply their expression expertise as members of multi-disciplinary teams in numerous therapeutic areas. We require a BS or MS in Molecular Biology or a related field with a minimum of 2-3 years' experience; experience in heterologous gene expression using mammalian, insect, or microbial expression systems; a mastery of mammalian cell culture techniques along with strong technical skills in molecular biology and immunoassay techniques; excellent verbal/written communication skills; and the ability to work in varied multi-disciplinary teams. Experience in cDNA library screening, RACE-PCR, and gene cloning is desirable. (Job Code: H8-0270S)

VIROLOGIST

INVESTIGATOR/SENIOR INVESTIGATOR

Our Department of Molecular Virology and Host Defense is seeking a virologist who will plan, implement, and supervise research aimed at the discovery of novel anti-virals. You will apply virological, molecular, and biochemical skills to identify viral molecular targets, explore mechanisms of anti-viral drug action, and select lead compounds as the virologist of a multi-discipline team. Results of this work will be presented at scientific meetings. We require a PhD (or equivalent) in Virology, Microbiology, or Molecular Biology; a minimum of 2 years' postdoctoral experience in related areas (RNA viruses and Hepatitis C preferred); scientific achievement as evident from publications, patents, abstracts, and presentations; excellent communication skills; and the ability to work effectively with individuals of varied backgrounds and disciplines. Industry and supervisory experience is preferred. (Job Code: C8-0375S)

DRUG DELIVERY TEAM MEMBER

You will provide expertise in the evaluation of polymers in solid oral, aerosol, and injectable dosage form design. You will also work within a multi-disciplinary team environment; develop cross-functional skills to actively participate in formulation design and evaluation; and establish a network to supply novel polymers for evaluation. Responsibilities will also include: interacting with clinical manufacture to develop formulations; reviewing *in vivo* and *in vitro* data; and checking validity of results and recommending further actions. We require a PhD in Chemistry, Engineering, Pharmaceuticals or related discipline; with experience in formulation design utilizing polymer systems to modulate release of drugs. You must also have experience with polymer synthesis and characterization. No known allergies or aversion to working with animals and chemicals is required. Industrial experience in product development and a familiarity with cGMPs and regulatory requirements for laboratory operations and documentation are a strong plus. (Job Code: D8-0374S)

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At SmithKline Beecham the application of high-throughput synthesis and high-throughput screening is resulting in an extraordinary increase in the numbers of compounds and corresponding data being generated for drug discovery. We continue to expand our transnational Cheminformatics group to work closely with medicinal chemists, screening scientists, and application development groups in the UK and US in the collection, transfer, manipulation, and exploitation of these data.

SOMETIMES, A GOOD MATCH IS MORE THAN CHEMISTRY.

PROJECT LEADER - SCREENING INFORMATICS, US

You will supervise a software development team responsible for the design and implementation of applications in support of high-throughput screening and assay data management. You will provide technical leadership in object-oriented analysis and design, and in development and implementation using distributed object technology, and will be expected to evaluate tools and methodologies from external vendors. We require an Advanced degree in computer science; experience in the design and development of software to support R&D processes; and proven expertise in Oracle DB design and object oriented programming. Practical experience in chemistry/biology and the use of statistical tools is preferred. (Job Code: C8-CIXPLSIS)

PHD SCIENTIST - KNOWLEDGE DISCOVERY, US

The rapidly growing volume of data relating chemical structure to biological activity will offer you opportunities to develop and apply computational tools to find new knowledge for drug discovery in large chemical and biological databases. We require an Advanced degree in biological sciences, chemistry, computer science, or statistics; and experience in information analysis, pattern recognition, machine learning, or chemometrics. Critical thinking and the drive to carry projects to completion are needed. Experience with software development in a Unix environment is a plus. (Job Code C8-CIXKDS)

SUPPORT SPECIALIST - MEDICINAL CHEMINFORMATICS, US

You will work with Discovery Chemistry in the use and customization of the sophisticated computer-based library design, tracking, and analysis tools demanded by combinatorial and automated chemistry.

We require a Master's degree in chemistry or a related discipline with 2 years' relevant experience, or a PhD; experience providing computer support in a scientific environment or significant experience with chemistry software packages and databases; excellent communication skills; and ability to work unsupervised with senior scientists. (Job Code: C8-CIXMCS)

ELECTRICAL/OPTICS ENGINEER, US

We require a Master's degree/PhD in electrical engineering or optical engineering; 5+ years' experience (3+ for PhD) in optoelectronics, instrumentation development, image processing, and micro-controller (software and hardware) design; analog and digital electronics skills; programming experience in a Windows NT/Unix environment; excellent communication skills; and ability to work unsupervised with senior scientists. Pharmaceutical/biotech industry experience is desired. (Job Code: C8-CIXEOES)

AUTOMATION ENGINEER/ SCIENTIST, UK

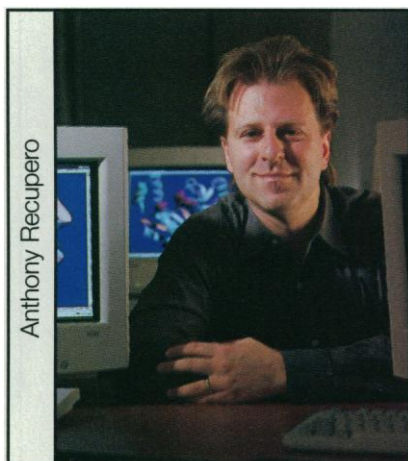
You will design, evaluate, and implement new technologies, and coordinate the efforts of 3-4 engineers, to provide automation and robotics solutions for drug discovery teams. We require a Master's degree/PhD with a strong background in automation applications in drug discovery; hands-on experience with hardware and software used in high-throughput screening; excellent communication skills; and ability to work unsupervised with senior scientists. Experience in data management and pattern recognition is preferred. (Job Code: C8-AESS)

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packed with great career opportunities, according to Anthony Recupero, proteomics product manager for Net-Genics, Inc. in Cleveland, Ohio.

"The proteome is much more complex because it changes with an organism's tissue type, state of development, or environmental conditions," Recupero said. "Protein modifications and protein-pro-

tein interactions can alter the function of a protein, so that one protein can have several functions. All this adds to the inherent complexity of proteomics, and the challenges that lie ahead."

What's making proteomics such a hot career field? Recupero cites several factors, including substantial improvements in technology for studying protein expression and structure.

But the big force is rapid progress in genomics. Each newly sequenced genome of an organism can reveal every conceivable target for drug discovery. Who will biopharmas rely upon to further characterize those targets and select the most promising candidates for drug development?

"It's going to be in the hands of proteomics groups," said Recupero. "Proteomics will play an increasingly important role in drug discovery. Several pharmaceutical companies are scaling up their proteomics efforts, and I think there will be a boost in the job market that continues into the future."

Individuals who want to join the excitement can take many different academic paths. Recupero recommends Master's or doctorate degrees with an emphasis on protein biochemistry, and hands-on experience with mass spectrometry (MS) and two-dimensional (2-D) gel electrophoresis, critical for separating, quantitating, and characterizing proteins. To "mine" the vast amounts of data generated from 2-D gels and MS, prospective scientists need sound informatics skills.

"Get some familiarity with the various software tools for managing and looking at protein data," Recupero noted. He added that computer programming skills in both UNIX and PC-based platforms, and languages such as C++ and Java would help open career opportunities in proteomics.

Myths and Misconceptions: "Proteomics involves more than 2-D gels and mass spectrometry. For drug discovery, you must also think in terms of expression, localization, structure, molecular associations, and protein function to truly understand a protein's role in the disease process. Understanding the relationships between all these kinds of data is very, very important.

"A second misconception is that proteomics is strictly focused on laboratory techniques. Informatics and knowledge representation are critical for managing and analyzing various types of data that emerge from the lab."

PHARMACOGENOMICS:

Colin Dykes, Variagenics, Inc.

Genomics-based drug discovery has branched into an exciting new field that promises sweeping changes in the way drugs are developed and prescribed. It is pharmacogenomics, the study of how gene polymorphisms and individual differences in gene expression affect the safety and efficacy of a given drug.

Pharmacogenomics offers new opportunities for drug discovery and more cost-effective drug development. How? By pointing drug discovery teams toward changes in gene expression that might indicate novel drug targets, or be predictive of drug response, and by identifying early on in the development process compounds destined for failure due to toxicity or poor efficacy. For clinical medicine, it promises an era of truly personalized medicine, in which physicians correlate genetic makeup and drug response in

HOT TIPS FOR HOT CAREERS:

Human Resources Perspective

Judy Batling, Chiron Corporation

So you've got all the brains, degrees, scientific skills, and experience for an awesome career in a blazing hot field. Is that all it takes to dazzle the recruiters? Not by a long shot, according to Judy Batlin, director of staffing and employee relations for Chiron Corporation, Emeryville, California. With more than 6,000 employees in facilities on four continents, Chiron scientists are deeply involved in many of today's hottest life science fields.

Here are Batlin's observations on the secret ingredients for success in any hot career field, based on more than 15 years of experience in the biopharmaceutical industry:

"A hot career, by definition, is a field with intense research activity. That means research on a team with individuals from other disciplines and diverse backgrounds. A creative scientist with no interpersonal skills once could work alone in a laboratory, and prosper so long as the discoveries kept coming.

"Such an individual, unable to relate to other people or understand an organization's core values, wouldn't last long today. It's virtually impossible to work in any part of an organization alone. Team members must have the ability to work productively with other people, share information and ideas, and focus on common goals. Everyone wants to work more efficiently and effectively and move products through the pipeline faster. It takes interpersonal skills, communication skills, influencing skills, the ability to create a vision, and embrace the vision of others.

"How can scientists develop these skills? I'd encourage people at the undergraduate or graduate level to take courses such as organizational development, industrial psychology, or project management. I can just imagine scanning a curriculum vitae and seeing that one individual took a course in conflict resolution, or Negotiating 101. That would really get a recruiter's attention. Almost everything requires some kind of negotiation, and that's especially true on a research team. No matter how hot a career field is, people skills remain critical."

Continued ➤

BIOTECHNOLOGY'S

Leading Edge

leads straight to **Lilly.**

Lilly is a premier pharmaceutical company and a world leader in the production of therapeutic proteins. Our Division of Research Technologies and Proteins is leading the way in the race to identify drug targets and develop therapeutic proteins. We are recruiting the best minds in biotechnology, providing the team-oriented environment and the tools for personal challenge and professional growth. Innovation at Lilly is supported by a visionary company with a 120 year-plus reputation of constantly striving for excellence.

Senior Scientists/Associates Bioinformatics

As part of our bioinformatics group you will be expected to participate, develop, and implement procedures and methods for identification of novel proteins, and gene targets using state-of-the-art computational tools and algorithms.

You will specifically contribute in one or more of the following areas:

- development of novel algorithms for gene function prediction
- integration of existing bioinformatics tools and related databases
- develop novel methods for examining genomic and protein sequences
- develop systems and/or strategies for helping biologists/scientists to aid in target and protein identification
- skills in statistical analysis of differential gene expression
- knowledge management
- user training and coaching

The positions will also be responsible for the conception, design, and performance of in-silico bioinformatics experiments to assist in the discovery of new therapeutic targets and proteins. Qualifications include an advanced degree in computer science and/or molecular biology coupled with a successful track-record in bioinformatics and thorough experience with UNIX, C, PERL, SQL, and biological databases.

Senior Biologist - Assay Technology and Screen Enablement Group

The position requires a PhD in biochemistry, cell biology, pharmacology or related discipline with post-doctoral and/or industrial experience. The successful candidate will have broad experience in cell culture techniques, in-vitro cell-based assays for gene function and screening, and the ability to utilize molecular technologies for target analysis. Experience in biochemical assay development including the application of radiochemical and fluorescence technologies, and the use of various pharmacological models for data analysis will be a plus. Strong communication skills are essential as well as the ability to work in a team of biologists and biochemists with expertise in multiple therapeutic areas.

For confidential consideration, please send your resume and cover letter indicating the position of interest to: Eli Lilly and Company, ADSCMPH10, DC1818, 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 opportunities at Eli Lilly and Company, please contact our Job Bank at: <http://www.lilly.com>

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At Monsanto, we share a common goal-to help people lead longer, healthier lives. We are pioneering the use of life—science technologies to understand how the connections between human health, nutrition and agriculture can be used to develop products to improve the quality of life for everyone, everywhere.

To achieve this goal, we are selectively hiring the best and the brightest people in the world—people who can make a difference and want to leave their mark.

Can you see yourself working on our dream of helping to improve food, health and hope in the world? Do you think about what you can achieve and the difference you, personally, can make?

All of us at Monsanto ask these questions daily. It's what brought us together and keeps us together.

Imagine the possibilities—a better world, healthier families, a more enjoyable life. We are a team with a dream, and we would like you to be a part of it.

Plant Biochemist/Molecular Biologist (Ph.D. Level)

We seek an individual to join our research team to focus on new technologies that add agronomic value to crops. Knowledge of plant physiology and development, experience in plant biochemistry and molecular biology, and postdoctoral experience required. Experience in plant biology or seed germination a plus. Excellent communication skills and technical capabilities, as well as the ability to thrive in a team atmosphere essential. (Job Code: SCMG-3344)

Plant Molecular Biologist (MS/BS Levels)

We seek 2 individuals who will lead the molecular analysis of transgenic crops currently in our discovery pipeline. Candidates must possess an MS (or a BS with extensive research experience), have a solid understanding of molecular biology and be technically skilled in nucleic acid manipulation, hybridization, PCR and cloning. Critical thinking, innovation, and communication skills are essential. Must excel in independent research projects while participating in highly collaborative team projects. (Job Code: SCMG-3343)

For consideration for the above 2 positions, please submit resume to: **Job Code: _____ (select from above), 700 Chesterfield Pkwy N., Mail Zone AA2G, St. Louis MO, 63198; fax: 314/694-3038.**

Plant Molecular Biologist (Ph.D. Level)

Develop and implement high quality, high throughput methods for molecular analysis of transgenic plants. Establish high throughput DNA isolation and molecular characterization methods such as Southern blot hybridization and PCR methods. Develop data collection and interpretation methods, assist in experimental design, and work alongside gene expression and quality control team members. Must have a Ph.D. with a minimum 1-2 years relevant postdoctoral experience or a MS with at least 5 years experience. Excellent interpersonal skills are essential. (Job Code: SCMG-3292)

For consideration for the above 1 position, please submit resume to: **Job Code: _____ (select from above), 700 Chesterfield Pkwy N., Mail Zone GG4C, St. Louis MO, 63198; fax: 314/694-3038.**

Technical Project Liaison

Work with various team leaders to develop project timelines, communicate with all team members to update and maintain project lists and track projects to maintain an accurate calendar of milestones and ensure the completion of goals. A BS/MS in science is required; Ph.D. preferred. A minimum of 3 years experience in two or more functional areas (biotechnology, pharmacology, etc.), as well as R&D and project management experience is required. Experience in the development of pharmaceutical or nutritional products is preferred. Must possess strong strategic, team-oriented analytical, interpersonal, and communication skills. (Job Code: JC-TPL)

Cell Biologist

Use your expertise in enzyme assays and mammalian cell culture to contribute to a new team focused on preventing cancer through molecular nutrition. Conduct in vitro and cell-based screening assays to characterize chemopreventative properties of nutrients. A BS/MS in Biochemistry, Cell Biology, Molecular Biology or related discipline is required; experience in molecular biology preferred. Must have strong organizational skills, an interest in nutrition, and the ability to thrive in a multi-disciplinary, team-based environment. (Job Code: JC-CB)

HTS Scientist

This position in assay development and screening requires an MS, BS or equivalent experience in biological sciences. In addition, laboratory competency in one or more of the following is essential: assay development, enzymology, receptor biology, cell culture, and high throughput screening. Experience with automated instrumentation or robotic workstations and computer literacy is preferred. (Job Code: JC-HTS)

Clinical Nutritionist (Ph.D. Level)

You will design, manage and monitor clinical trials, as well as establish contact with potential researchers, jointly develop protocol, supervise studies, help researchers in analysis/publication of studies, and interpret the results. You will be actively involved in strategic planning, acquisition evaluation, and scientific summaries of conferences and presentations within and outside of Monsanto. A Ph.D. in Nutrition and minimum 5 years experience (preferably in industry) is required. Nutrition clinical trials experience required; contract research organization experience preferred. (Job Code: JC-CN)

Bioinformatics Scientist

Using knowledge of biology and computational skills, you will extract meaningful data from genomics information to identify leads and targets with biological significance. You will also generate prototypes of bioinformatics-related computer programs to solve specific research problems, as well as aid in defining specifications for production level systems. A Ph.D. in a relevant field and a minimum 2 years in bioinformatics with a strong biology and computer background is required. In-depth knowledge of bioinformatics tools and a demonstrated skill in a programming language is essential. Experience in a commercial environment and a record of publishing is a plus. (Job Code: SCMG-3272)

Immunoassay Development Specialist

We seek a highly motivated professional who will pioneer new and enhance existing immunochemical techniques for plant biotechnology in an interactive team-based environment. You will create exciting new immunochemical detection systems for the characterization of gene expression products in genetically modified agricultural products as you join Monsanto's industry-leading Regulatory Science organization and support the development and commercialization of genetically modified plants. Successful candidates will possess a Ph.D., Masters or equivalent in a biological science which is closely allied with immunology or biochemistry. A strong background in immunoassay development (ELISA, lateral flow, fluorescence, RIA) is required. Industry experience, field kit development, automation/high throughput, rapid diagnostic development, and multi-analyte detection skills are desired. The selected candidate will have excellent interpersonal, communication and organizational skills, and most importantly, a demonstrated ability to introduce new technologies in a diverse team of highly motivated professionals. (Job Code: SCMG-3349)

Plant Molecular Biology Analysts (BS/MS/Ph.D. Levels)

Several outstanding scientists are needed for genetic characterization of recombinant crops. Preferred skills include southern and northern blot analysis, PCR, genotype analysis, RFLP, AFLP, inverse PCR/genome walking, and genomic library construction. Other skills related to high throughput DNA analysis are a plus. Excellent communication skills and presentation skills are mandatory. (Job Code: SCMG-3350)

Plant Biochemist/Cell Biologist

The successful candidate will be responsible for the development and application of strategies for the characterization of proteins expressed in plants. Working with Discovery Teams and Regulatory Affairs managers, this individual will develop protein characterization and safety data supporting the commercialization of plant biotechnology products worldwide. Experience with enzymology, protein purification (including process-scale), heterologous gene expression, post-translational modifications, analytical detection methods, protein sequencing and protein engineering will be viewed positively. The position requires a Ph.D. in biochemistry, molecular biology or cell biology, or an equivalent combination of education and experience. Knowledge of GLP and/or GMP is highly desirable. Exceptional communication and project management skills should be evident. (Job Code: SCMG-3351)

For consideration for the above 8 positions, please submit resume to: **Job Code: _____ (select from above), 800 N. Lindbergh Blvd., Mail Zone E2NB, St. Louis, MO 63167; fax: 314/694-2014.**

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Because of you.



we're making a world of difference.

At Wyeth-Ayerst, we're leading the way for a healthier world in the following areas:

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- Infectious Diseases
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- Metabolic Diseases
- Chemical Sciences
- Core Technologies

Wyeth-Ayerst is committed to helping people lead healthier lives through the development of innovative pharmaceutical, vaccine and nutritional products. We achieve this through our superior research, manufacturing, sales and marketing capabilities. It's our solid dedication, vision and constant search for answers that allow us to touch millions of people around the world every day.

Postdoctoral Opportunities in Drug Discovery Research.

Wyeth-Ayerst Research seeks Postdoctoral Fellows for interdisciplinary research in several areas of drug discovery at our Pearl River, NY, Princeton, NJ and Radnor, PA locations. We currently have newly created positions within the following research areas:

- CNS Research:** (Neurodegenerative and Neuropsychiatric Disorders)
- Neuronal apoptosis
- Ion channel regulation
- Signal transduction and transcriptional regulation
- Oncology:**
- Regulation of signaling and cell cycle kinases
- Mechanisms of dysregulation of the apoptotic pathway in tumor cells
- Infectious Diseases:**
- Biochemistry of bacterial DNA replication and DNA replication targets
- Molecular genetics of Herpes viruses, specifically Varicella-Zoster Virus
- Hepatitis C virology
- Mechanism of action and resistance for novel antimicrobials

Wyeth-Ayerst offers comprehensive compensation and benefits programs. To be considered for openings in our Postdoctoral Fellowship Program, please send your curriculum vitae and a statement of research interests to: **Wyeth-Ayerst, Reference OPSCI-4239, P.O. Box 7886, Philadelphia, PA 19101-7886.** Fax in fine mode to: (610) 989-4854. Email: jobs@RAMAILL.wyeth.com (ASCII format, no attachments, subject: resume).

For more information, visit our website at www.ahp.com/wyeth.htm

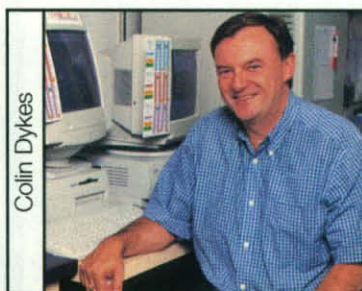
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- Combinatorial Chemistry method development using organometallic reagents and microwave modulated technology and the study of ketene-piperazine cycloaddition reactions
- Core Technologies:**
- Novel method development for high resolution structure determination of biomolecules by NMR
- Metabolic Diseases:**
- Role of tyrosine phosphatase activity in the modulation of insulin signaling, action and metabolic regulation
- Cardiac Diseases:**
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- Steroid hormones in the CNS
- Molecular biology of steroid hormone action, including molecular mechanisms of and Reproductive Biology)
- Women's Health:** (Molecular Endocrinology)

Bringing results home.



their patients, and use the insights to select the best drug.

"Pharmacogenomics is very much a growth area, and promises rapid expansion in the future," said Colin Dykes, vice president of genomics at Variagenics, Inc., Cambridge, Massachusetts. "There will be more

emphasis on finding variances in genes involved in drug response and toxicity, including design of convenient assays to measure these variances in large populations of patients."

Several factors in society and science have combined to put pharmacogenomics high on the list of hot career fields, according to Dykes. One is an overlap between public desire for safer, more effective drugs and new scientific knowledge about the genetic basis for drug response. The natural result: a boom in research activity, involving big pharmas, start-up biotechs, and laboratories in academe focused on the goal of identifying genetic variants involved in efficacy and toxicity. As successes pile up, pharmacogenomics will debut in the general population, perhaps in assays to screen patients for single nucleotide polymorphisms (SNPs) so that physicians can make individualized decisions in prescribing drugs.

"You're talking about millions of potential customers for assays and drugs developed specifically for individuals with certain patterns of polymorphisms. Pharmacogenomics is just at the beginning of this evolution right now. The scale of activity is going to increase enormously and continue as a hot career field for perhaps five to ten years."

Individuals preparing for careers in pharmacogenomics should have a strong grounding in state-of-the-art molecular biology, biochemistry, and genetics, Dykes advised. If asked to pick one lab skill that's growing most rapidly in importance, Dykes would cite mass spectrometry. Many companies interested in assay de-

velopment will face a special need for individuals with mass spectrometry skills. With the growing importance of microengineered chip-based assays, individuals with skills in nanotechnology and microengineering also will be prize catches in the future.

"Pharmacogenomics has the potential to make a tremendous impact on medicine and the way medicine is practiced. It's a hot area, right at the cutting edge of science."

Myths and Misconceptions: "People starting a career in pharmacogenomics should be more aware of how rapidly the field is evolving. A scientist may start a job this year as an expert in one particular technology absolutely essential to research. But at a stroke, some new development can appear that makes the individual's skills obsolete. Industry research requires scientists to be flexible, quick to respond and adapt to changes, with skills transportable to another field if that becomes necessary. That's especially important in fields like pharmacogenomics that are still in the early stages of development."

SIGNAL TRANSDUCTION:

Tomi Sawyer, ARIAD Pharmaceuticals, Inc.

Signal transduction from hormones, neurotransmitters, environmental antigens, and other biologically active molecules are constantly arriving at the cell membrane. Cells respond by secreting, proliferating, differentiating, undergoing apoptosis, and other ways that produce robust good health or disease. The response is mediated through a complex and interdependent series of steps—a signal transduction pathway—in which the initial signal is handed off and passed along from one molecule to another in the cell.

"Historically, signal transduction has provided new frontiers to the understanding of hormone action and immunology," said Tomi Sawyer, director of drug discovery—signal transduction at ARIAD Pharmaceuticals, Inc., Cambridge, Massachusetts. "More recently, it has opened new approaches to cancer research, and now offers the promise of unraveling the molecular basis of many diseases and biological phenomena."

Sawyer oversees a group of about 30 scientists, including a collaborative drug discovery program in osteoporosis with Hoechst Marion Roussel. From that perspective, he knows that signal transduction research requires scientists from a wide range of backgrounds, including biochemistry, cell biology, molecular biology, functional genomics, endocrinology, and chemistry. Their common goal: to define cellular function at the molecular level, its regulatory pathways, and how these processes go astray in disease.

Biologists are not the only scientists making important contributions to this rapidly emerging field of science. Sawyer says that the chemical aspects of signal transduction are of growing impor-



Several factors... have combined to put pharmacogenomics high on the list of hot career fields.... One is an overlap between public desire for safer, more effective drugs and new scientific knowledge about the genetic basis for drug response.

Continued >



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Paradigm Genetics, Inc. is an Agricultural Biotechnology company. Paradigm Genetics utilizes Molecular Biology, Genetics, Biochemistry, Physiology and Computer Science in order to understand gene function and the rules by which genes and gene products interact to maintain living systems. Through this higher level understanding of gene function, Paradigm Genetics will impact world food and fiber production by improving the discovery of safer, more effective crop protection chemicals and seeds. We are currently seeking highly motivated and qualified people to join our Plant Research Team in Research Triangle Park, NC. Openings are available for the following positions:



Group Leader Positions

Plant Genetics:

A Ph.D. is required, preferably in Plant Genetics or Plant Molecular Biology with extensive postdoctoral experience. Responsibilities include performance and evaluation of novel plant transformation, gene expression, and gene modification systems in higher plants. Responsibility for our greenhouse and plant growth facilities and the supervision of scientists in our expanding Plant research group are additional duties. Leadership experience in an industrial setting is helpful. **Job #104**

Plant Physiology & Biochemistry:

A Ph.D. is required, preferably in Plant Physiology or Biochemistry with extensive postdoctoral experience. Responsibilities include performance of biochemical and morphological analyses of plants under multiple environmental and genetic conditions. Responsibility for the organization and supervision of scientists on this team and for experimental setup are additional duties. **Job #105**

Bachelor and Master Positions

Successful candidates hold a BS or MS in Molecular Biology, Plant Physiology, Biochemistry or related field. Experience with plants is an advantage. Responsibilities include gene cloning, gene expression, library construction, plant transformation, plant regeneration, and extraction of RNA, DNA or metabolites from plant material. 2 years of lab experience for BS position and 3 or more years of lab experience for MS position required. Experience in an industrial setting is an advantage. **Job #110**

Assay Development

A MS or BS in Biochemistry or Immunochemistry is required along with extensive experience in the design and development of high throughput assays. Experience with the following assays is essential: enzyme, ligand capture, antibody capture, and reporter gene. Extensive experience is also required in general biochemistry techniques such as: Westerns, affinity purification, PAGE, 2-D PAGE, enzyme conjugations, and liquid chromatography. Excellent organizational and communication skills are required. **Job #113**



Ph.D./Post Doc Positions

Plant Molecular Biology:

A Ph.D. in Molecular Biology or Plant Molecular Biology is required with doctoral or postdoctoral experience in the field. Responsibilities include library construction, development of gene expression and gene modification systems, and manipulation of transcription machinery in plants. Experience in plant biology or plant transformation is an advantage. **Job #106**

Plant Physiology:

A Ph.D. in Plant Physiology or Biochemistry is preferred. The investigation of plant mutants and environmentally stressed plants using various techniques including gene expression profiling, developmental and stress response markers, and metabolite analysis are the primary responsibilities. Experience in plant anatomy and development or plant biochemistry is an advantage. **Job #107**

Gene Expression Profiling:

A Ph.D. in Molecular Biology or Plant Molecular Biology is preferred. The performance of gene expression profiling of higher plants is the chief responsibility. An integral part of this duty is the development of arrays with increasing numbers of targets and evaluation of novel technologies. **Job #108**

Computational Biology:

A Ph.D. in Biology, Molecular Biology, or Biochemistry is required along with extensive experience in computer applications or computer sciences. The implementation and improvement of data mining tools for application in the plant functional genomics field is the chief responsibility. Experience with relational, object oriented DBs is an advantage. **Job #109**

Analytical Chemist

A Ph.D. or MS in Chemistry or Biochemistry is required along with extensive experience in LC-ESI/MS of small molecules. Broad experience in separation and general biochemical/chemical methods is essential. Additional experience with MALDI-TOF and LC/NMR is desirable. Project management and excellent communication skills are required. **Job #112**

*Successful candidates will be offered a competitive salary and benefits package, stock options as well as an exciting team environment with emphasis on achievement and career development. For consideration, please include the job number on your cover letter and submit a resume to: **Human Resources, Paradigm Genetics, Inc., P.O. Box 14528, RTP, NC 27709; or Email: hr@paradigmgenetics.com** EOE*

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Associate Director of Corporate Development

The qualified candidate will be responsible for establishing new business relationships, directing market analysis and identifying new market niches. The Associate Director will be involved with identifying, presenting to and negotiating with potential partners. Must have a history of successful completion of negotiations, out-licensing, and proven track record of establishing collaborations and partnerships with major pharmaceutical and biotechnology companies. Proven analytical ability, high initiative and motivation and team spirit a must. Ph.D. and/or MBA with a background in life sciences and successful deal negotiation experience in pharmaceutical/biotechnology industry required. The salary will be commensurate with experience.

Job Code: ADCD-1016

Software Developers

Experience in Perl and C/C++ or Java in a UNIX environment required with SQL experience a plus. The ideal candidate will have a strong understanding of biology, computational algorithms and data structures. Minimum qualifications include a BS in computer science or equivalent.

Job Code: SD-1016

Bioinformatics Data Analysts

Extremely challenging position for highly motivated BS, MS, or Ph.Ds in molecular biology or computer science with good problem solving skills in top of the line genomic research. Experience with computational DNA analysis, programming (C, Perl, Java, SQL) a plus. MS/Ph.D. applicants must have strong UNIX and Perl skills and have extensive experience using bioinformatics tools to analyze DNA sequences.

Job Code: BDA-1016

Project Leader

Project Leader-cardiovascular function. Ph.D. with 5-10 years of experience in gene isolation and functional studies. Experience in human or model system genetics, molecular biology or biochemistry required. Familiarity with cardiovascular disease a plus. The successful candidate will be able to lead a project in identifying and characterizing cardiovascular disease genes.

Job Code: PL-1016

Scientist

Scientist-functional genomics. Ph.D. with postdoctoral experience in analysis of gene function. Experience with a variety of molecular and cellular biological and biochemical techniques and assay development required. Will supervise and work in a team characterizing the structure and function of cardiovascular disease genes.

Job Code: SCI-1016

Molecular Biologist

Molecular Biologist. BS or MS with 5 or more years of work experience in molecular or cellular biology or biochemistry. Must be able to work cooperatively in a team characterizing the structure and function or cardiovascular disease genes.

Job Code: MB-1016

Algorithm Developer

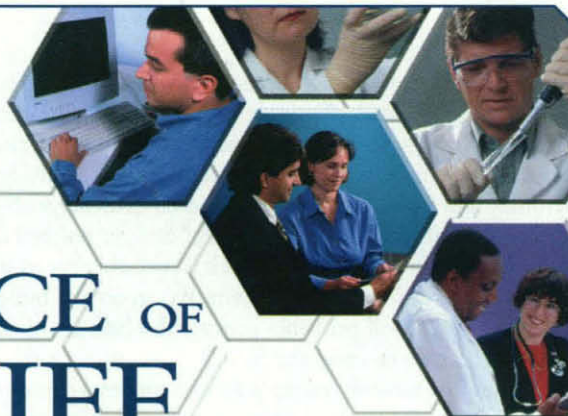
Responsible for design, implementation, and testing of novel computational algorithms for Sequencing by Hybridization (SBH) Bioinformatics research and development, including computer modeling, combinatorics, statistics, performance tuning, and numerical optimization. Duties also include quantitative SBH data analysis within computational biology framework. Requires MS in Biochemistry or Biophysics, two years of experience on UNIX.

Job Code: AD-1016

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ASSOCIATE SCIENTISTS, VIROLOGY

We are seeking several experienced MS and BS level Scientists to join an expanding Virology team. The overall responsibility will include planning and implementation of research aimed at the discovery, evaluation and development of novel therapeutic anti-viral agents. Candidates should have demonstrated ability in basic virology techniques, cell culture, and assay development as well as expertise in molecular biology and biochemistry laboratory techniques. Experience with infectious HIV is preferred. In addition, candidates must have the desire to work in multi-disciplinary teams and an enthusiasm for discovery research. Code 128/AP

TOXICOLOGIST, DEVELOPMENT PHARMACOLOGY

Selected candidate will be responsible for the chemistry, manufacturing and control aspects of our toxicology program, resolving issues concerning drug product impurities, degradants and residual solvents, and participating in the drug development process through the design, monitoring and interpretation of studies to assess the toxicity of drugs. Requires a PhD in toxicology. Training in industrial toxicology/occupational health and experience in industrial toxicology in the pharmaceutical industry preferred. Code 420/JT

CLINICAL PHARMACOKINETICIST, CLINICAL PHARMACOLOGY

Selected candidates will support our clinical research group, provide pharmacokinetic and pharmacodynamic support in all phases of clinical drug development for anti-viral and anti-cancer compounds, and perform study design and protocol writing, data analysis, report writing and assembly of pharmacokinetic sections for New Drug Applications. Qualified candidates will have a PharmD or PhD in pharmacological sciences with an emphasis on training in pharmacokinetics. Prior experience will ideally include 3-6 years' experience in a clinical research or similar environment. Code 410/BK2

ASSOCIATE SCIENTISTS, COMBINATORIAL CHEMISTRY

These positions are available through Alanex Corporation, a subsidiary of Agouron Pharmaceuticals. Alanex has created an innovative combinatorial chemistry technology that accelerates the drug discovery process by integrating the automated design, high speed synthesis, and high throughput screening of small molecule libraries. We have several openings for BS or MS level Chemists with 0-5 years' experience performing organic syntheses and reaction development for combinatorial chemistry. Code 155/LT



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tance and include determining three-dimensional structures of key targets, computational chemistry, and combinatorial chemistry. Medicinal/bioorganic scientists design and synthesize specific inhibitors of key molecules in a signal transduction pathway.

"Chemistry and biology are merging and co-evolving with the whole field of signal transduction research," Sawyer pointed out. "Many specializations exist for each. But it is probably fair to state that molecular and cell biology, biochemistry, structural biology, and chemical biology will probably provide the best set of skills for scientists who plan to enter the field."

Sawyer notes that most signal transduction processes inside the cell result from protein interactions or enzyme-substrate interactions, making knowledge of peptide/protein structure and function extremely important. Courses in peptide/protein chemistry, chemical biology, and bioorganic chemistry can be especially useful for prospective signal transduction scientists.

"The job market for signal transduction research, both academic and in industry, will gain momentum as science continues to unravel the biological complexities that orchestrate cellular function," Sawyer said. "With its tremendous potential for producing new drugs, this is a field of real research opportunity."

Myths and Misconceptions: "Don't expect to find many advertisements in *Science* or other publications that state, 'Wanted: Scientist For Signal Transduction Research,' and then list a specific set of qualifications. You just don't often see it in black and white like that. You often must read closely, between the lines, or risk missing good opportunities.

"Students forget that signal transduction is not a new field. It has existed for many years under different identities—biochemistry, cell biology, molecular biology, endocrinology, immunology. Nevertheless, signal transduction research and drug discovery is developing a distinct individual identity as textbooks, graduate courses, scientific conferences, professional societies, and the biopharmaceutical industry have shown an increasing focus on this topic."

Said Goueli, Promega Corporation

Said Goueli came to Promega Corporation in 1992 to develop a signal transduction research group. Cellular signaling mechanisms



Said Goueli

had been a fascination from Ph.D. research on enzyme regulation to postdoctoral work on protein kinases to a faculty position at the University of Minnesota that involved research on signal transduction mechanisms in prostate growth. His Promega group is developing new tools to help academic and industry scientists probe cell signaling mechanisms.



Signal transduction research requires scientists from a wide range of backgrounds.... Their common goal: to define cellular function at the molecular level, its regulatory pathways, and how these processes go astray in disease.

We asked Goueli why signal transduction is such a hot field, and for other insights drawn from his years of academic and industry expertise.

"A great deal of research activity is under-

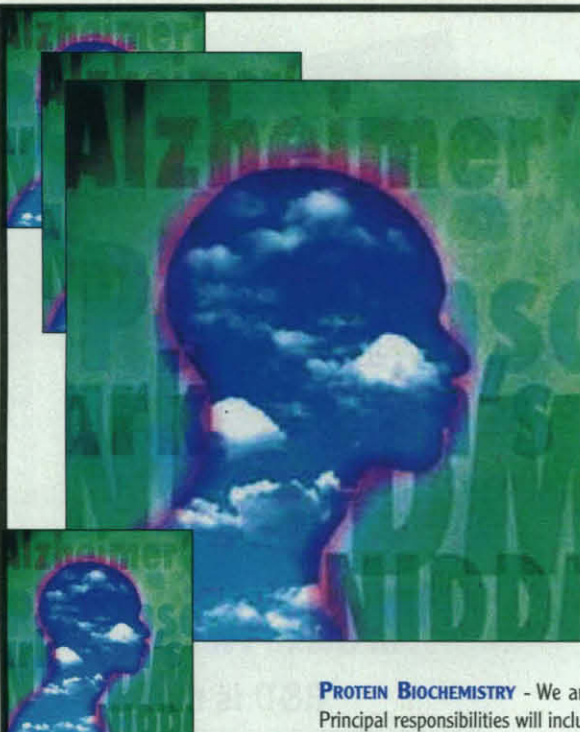
way in signal transduction because of its potential for finding new treatments for diseases. Hundreds of research projects in industry and academia target diseases such as cancer, diabetes, arthritis, atherosclerosis, and neurodegenerative disorders. Many other companies are developing new tools and technologies for use in signal transduction research. There's lots of venture capital activity, as well.

"The complexity of signal transduction research makes it difficult for someone to acquire the expertise to do everything. A multidisciplinary approach is needed in planning and conducting signal transduction projects. Thus, there are ample opportunities for scientists in diverse fields of research to collaborate in these complex projects. In addition, there are an overwhelming number of newly discovered genes and novel tools that provide unlimited opportunities for scientific exploration. More scientists are also needed to develop new research tools, and we have witnessed an explosion in the number of new companies that develop combinatorial chemistry libraries, cell-based assays, and software for rational drug design.

"Because there are so many biological targets and so many human diseases, there always will be plenty of opportunities and the need for scientists who are interested in signal transduction, and the excitement and euphoria that is part of this research.

"Students often wonder what kinds of academic courses or degrees will open doors to careers. Well, a Ph.D. in biochemistry or molecular biology certainly would provide the basis for a career. Typical research projects during graduate work might involve identification of a new gene, characterizing gene products, or studying gene function in the cell and how it is regulated. This, of course, requires knowledge of protein biochem-

Continued ➤



MITOCHONDRIAL MEDICINE

MitoKor™ is a leading pharmacogenomics company focused on developing therapeutics and metrics for diseases related to abnormalities in mitochondrial function. Our groundbreaking research is targeted toward Alzheimer's Disease, Parkinson's Disease, Type II Diabetes, and other age-related degenerative disease. We are actively seeking exceptional scientists for the following career opportunities:

PROTEIN BIOCHEMISTRY - We are seeking a scientist with 3-5 years' postdoctoral experience for this position. Principal responsibilities will include isolation, purification, and characterization of proteins. Strong background in protein separation and analytical methods is essential. Experience in protein microsequencing, mass spectrometry, 2-D gel electrophoresis, and proteomics is preferred.

MOLECULAR BIOLOGY - Principal responsibilities for this position include the isolation and characterization of gene expression profiles. Strong background in analysis of gene expression (differential display, high density DNA arrays, quantitative PCR, DNA sequencing) is required. Understanding of bioinformatics is desired. Ideal candidate is a scientist with 3-5 years' postdoctoral experience.

CELL BIOLOGY/PHARMACOLOGY - Principal responsibilities for this position include design and development of assays for determination of novel drug actions. Strong background in analysis of ligand-protein interactions, including ligand binding, enzymatic activity, and cell-based functional systems is required. Knowledge of basic pharmacology, single-cell imaging techniques, and enzyme kinetics is strongly desired. Ideal candidate is a scientist with 3-5 years' postdoctoral experience.

HIGH-THROUGHPUT SCREENING - Principal responsibilities for this position include the development, automation, and implementation of high-throughput drug discovery screens. Ideal candidate for this position will have 5 or more years' postdoctoral experience and a strong background in automation of screening assays using various formats and technologies. Experience with database management is preferred.

INFORMATICS - As Director of Informatics, you will have an excellent opportunity to work at the cutting edge of drug discovery, pharmacogenetics, comparative gene and protein expression, and informatics. You will lead a team focused on merging information from diverse sources to define new paths to the treatment and detection of late-onset degenerative disease. Ph.D. plus 10 or more years' experience is desired.

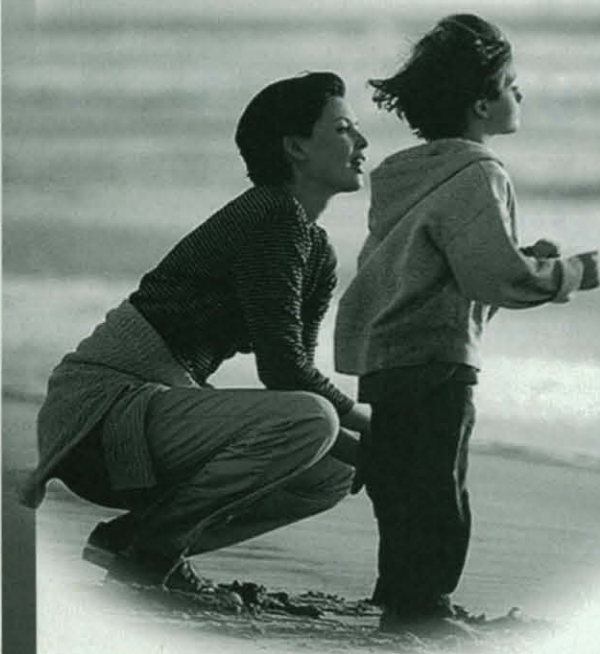
PHARMACOGENETICS - Using MitoKor's™ research discoveries linking mitochondrial and nuclear genomics and proteomics, you will oversee the design and development to diagnostic products. Ideal candidate will have thorough understanding of diagnostic assay and kit development. Your knowledge of QA/QC, kit design, product development and validation, and experience managing all aspects of assay development is desired. Especially important is an understanding of products designed to stratify patient populations and drive medical management of disease. Ph.D. plus 10 or more years' experience is desired.

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Receptor Biochemistry**

Working with the Department of Receptor Biochemistry the successful candidate will participate in drug discovery in the area of Metabolic and Urogenital disease. Responsibilities include culture of mammalian cell lines, assay development, compound handling, analysis and interpretation of data and problem-solving to support appliances of high-throughput screening to enhance drug selection.

Position requires a BS degree with at least 2 years experience in cell culture techniques and assay development or an MS degree. An understanding of computer systems and automation is also desired; experience with or interest in membrane transport proteins a plus. Good written/oral communication skills and willingness to work in a high-throughput, cooperative team environment are essential. **Refer to Job #ASC5911-1 on all resumes.**

**ASSOCIATE SCIENTIST/
RESEARCH SCIENTIST
Molecular Endocrinology**

The Department of Molecular Endocrinology is seeking a highly motivated Molecular Biologist to join the nuclear receptor project group. Candidate will be responsible for identifying and characterizing the target genes regulated by (orphan) nuclear hormone receptors and their cognate ligands.

Position requires an MS or BS in Molecular Biology and 2 years experience in cloning and sub-cloning procedures. Experience with differential gene expression and mammalian cell culture techniques is highly desirable. Excellent organizational, communication and computer skills are required as is the ability to work in a team environment. **Refer to Job #ASC6003-1 on all resumes.**

**SENIOR SCIENTIST/RESEARCH
INVESTIGATOR I
Molecular Endocrinology**

The Department of Molecular Endocrinology is seeking a highly motivated Molecular Biologist to join the nuclear receptor project group. Candidate will work as part of a team to identify and characterize the target genes regulated by (orphan) nuclear hormone receptors and their cognate ligands. See recent publications by Kliewer et al, 1997 (J.Biol.Chem 272:3137-3140) and 1998 (Cell 92:73-82).

Position requires a Ph.D. in Molecular Biology or related field. Experience with differential gene expression and mammalian cell culture techniques is highly desirable. Excellent organizational, communication and computer skills are required, as is the ability to work in a team environment. **Refer to Job #ASC6004-1 on all resumes.**

**RESEARCH INVESTIGATOR I
Cancer Biology**

Responsibilities include establishing and utilizing cancer genetics databases for the identification and validation of novel therapeutic targets in cancer. The candidate will work closely with scientists in both research and genetics to establish database tools and cancer-specific queries and use these to identify and coordinate the validation of novel cancer targets from both public domain and proprietary databases.

Position requires a Ph.D. in Molecular Biology (Molecular Oncology) or Genetics with at least 2 years of post-doctoral experience. A broad knowledge of cancer biology is also required along with experience in one of more of the following areas: cell cycle regulation, signal transduction, angiogenesis or cytokine biology. Excellent verbal and written communication skills and the ability to work in a multidisciplinary team environment are essential. **Refer to Job #ASC5915-1 on all resumes.**

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Millennium is a leading drug discovery and development company employing large-scale genetics, genomics, high throughput screening and informatics in an integrated science and technology platform. In addition, we have several major pharmaceutical partners spanning numerous disease areas. Based on our success, we are expanding our disease focus into a number of additional areas including: cancer, pain, cardiovascular disease, hematology and virology.

We have a number of interesting opportunities which will involve gene identification, functional analysis and assay development. Candidates should have a Ph.D./MD with 3-5 years of postdoctoral experience, good oral and written communication skills, and an outstanding record of publication. Familiarity with molecular biological and anatomical techniques is a plus. We are also looking for candidates with a BS/MS and 2-4 years of solid Molecular Biology experience including *in situ*, Immunohistochemistry, *in vivo* physiological monitoring, DNA cloning, and PCR. These are exciting opportunities to work at the interface of Genomics, Molecular Genetics and Drug Discovery.

SCIENTISTS

Protein Purification

Be a key member of a team focused on the production, purification, assay, and structural and biological characterization of novel proteins. General protein biochemistry and chromatography skills and familiarity with operating sophisticated equipment are required. BS/MS and 5+ years' experience in protein purification and analysis a must.

Mammalian Cell-Based Screening

Responsible for last stage development and automation of high throughput cell-based assays, primarily using mammalian cell lines, as well as the successful implementation and completion of the assays. A Ph.D. with Post Doctoral experience is required.

Gene Expression

Responsible for gene expression technology development for high throughput protein production. Ph.D. and several years of industry experience with a demonstrated track record in gene expression efforts required. Outstanding skills in Molecular and Cell Biology with demonstrated expertise in DNA vector design, construction and manipulation essential.

RESEARCH ASSOCIATES

Protein Purification

Multiple openings for individuals with experience in the purification of proteins and antibodies as well as with various expression systems, especially *E. coli*. Requires BS in Biology or Biochemistry and 2+ years' purification experience.

Pharmacology

Assist in evaluating efficacy of recombinant proteins and/or antibodies in animal models of human disease within a group working on the elucidation of function and potential utility of therapeutic protein/antibody candidates. BS in Biology, Pharmacology or Physiology and 2-5 years' experience with *in vivo* studies are required.

Assay Development

Be part of a newly formed group responsible for establishing ELISA and cell-based bioassays for evaluation of the production and use of therapeutic antibodies and proteins. BS/MS in Biology, Cell Biology or Immunology and 2-4 years' experience in the generation of functional (bioassays), ELISA-based assay, or tissue culture of cell lines and primary cultures of multiple tissue types required.

High Throughput Screening

Develop, automate and run high throughput drug discovery screens supporting multiple therapeutic areas. BS and/or MS in Cell Biology, Immunology, Biochemistry or related field and 2-4 years' experience required.

Synthetic Organic Chemistry

Use combinatorial chemistry techniques to prepare and characterize large arrays of drug-like compounds for high throughput screening. Experience in Synthetic Organic Chemistry for drug discovery is required, as is a sound working knowledge of HPLC, MS and NMR techniques. BS in Chemistry with 3 years' experience (or MS with 1 year experience) in synthetic Organic Chemistry essential.

SEQUENCING

Director

Oversee the production operations of a large cutting-edge sequencing center focusing on gene discovery and pathway elucidation to support internal research projects. You will also drive the evaluation of new technologies relevant to high throughput sequencing, plus contribute to bench chemistry and software process innovation. Knowledge of sequencing strategies, chemistries, software, and new technologies a must, as is a Ph.D. or MS in Molecular Biology or related field.

Finishing Coordinator

Coordinate the activities of a 7+ member finishing team responsible for sequencing assembly, editing and polishing tasks on projects ranging from cDNAs to large genomic clones. 4+ years' fluorescent sequencing/finishing experience, strong sequencing chemistry troubleshooting skills, adept management and team playing skills, and familiarity with UNIX and Mac platforms/databases required.

Production Coordinator

Coordinate the activities of a 6+ member production team responsible for DNA template preparation, sequencing reaction assembly and pooling, electrophoresis and data capture, including process troubleshooting and integration of technological advances. BS/MS in Molecular Biology, Biochemistry, Biology, Microbiology or Genetics.

Finisher

Perform sequencing assembly, editing and polishing tasks on projects ranging from cDNA clones to large genomic clones. Requires BS/MS in Biology (or related discipline); strong communication, presentation, organizational, and team skills; sequencing chemistry troubleshooting; and familiarity with sequence analysis tools.

Production Technician

2:30 PM - 11:30 PM, SATURDAY-WEDNESDAY

Utilize liquid handling robots for high throughput sequencing template preparation and sequencing reaction assembly, automated fluorescent sequencing and production process optimization. Certificate in Biotechnology or in Biology or related area required.

BUSINESS

Patent Attorney

Work closely with legal and research teams to advise, identify, and develop patent strategies for the Company's Small Molecule Discovery program and other programs in the Pharmaceutical Division. Position offers career growth, and involvement with very diverse, leading technologies, and complex emerging patent law issues. Requires MS or Ph.D., J.D., and patent bar, plus related law firm, corporate pharmaceutical or biotechnology patent experience.

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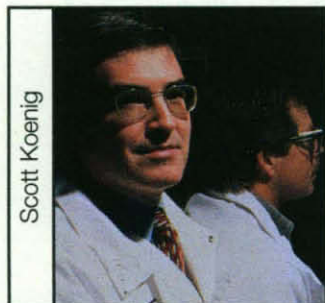
Companies that had no interest in vaccines are developing partnerships or starting their own programs. Academic institutions are organizing vaccine development institutes.

istry, enzymology, and cell biology, among others. I'd recommend additional courses in organic and bioorganic chemistry. Physical biochemistry is very useful for the physical characterization of signaling molecules, which is central to development of *in vitro* and *in vivo* bioassays."

THE VACCINE REVOLUTION:

Scott Koenig, MedImmune, Inc.

Everywhere you look these days in vaccine research and development there is ample evidence of a boom. For much of the



Scott Koenig

20th century innovations were based on the first of three revolutions that sculpted the field. It was the science of Louis Pasteur and his successors, who used killed and attenuated whole microorganisms to prevent disease. Now vaccine science is mounting the crest of two newer revolutions in immunization: through the use of

recombinant components of microorganisms and, most recently, through naked DNA technology.

"I see a huge effort now in developing new-generation vaccines and delivery systems," said Scott Koenig, vice president of research for MedImmune, Inc., Gaithersburg, Maryland. "It's leading to better products for traditional vaccine-preventable diseases, and for diseases and populations where immunization was not possible in the past."

Products such as? Koenig cited mucosal and oral vaccines, single-dose vaccines and recombinant products for childhood diseases, expansion of prophylactic and therapeutic vaccination in adolescents and the elderly, vaccines for some forms of cancer and other diseases found to be caused by infectious pathogens, and new therapeutic vaccines.

Improved understanding of the pathogenesis of diseases is driving the activity, providing new bacterial and viral targets for vaccine development. The genome projects are making their own contribution, revealing the gene sequences of every antigen that is a potential vaccine target. "New biotechnology companies, focused on vaccine development, are forming," Koenig noted. "Companies that had no interest in vaccines are developing partnerships or starting their own programs. Academic institutions are organizing vaccine development institutes. There's lots of activity that promises to continue over the long term and provide good career opportunities."

What degrees and skills can open a door to those opportunities?

Like many other hot career fields, there is no specific degree in "vaccine science," for instance, or any other fixed preparatory



course. People from a wide range of backgrounds bring their skills to bear in benchside and clinical research, process science, regulatory affairs, marketing, and other facets of the vaccine business.

Koenig said that vaccine R&D teams include individuals on the B.S., M.S., and Ph.D. levels with expertise in molecular biology, protein expression, immunology, animal modeling, process biochemistry, clinical trials, and other fields.

"It's an exceptionally exciting time to be involved in vaccine research, both from an academic and industrial perspective. The field offers broad opportunities because of major advances in technology and understanding of disease pathogenesis. I'd encourage people to come on board and take the opportunities in this area."

Myths and Misconceptions: "Individuals often list dozens of different technical skills on a curriculum vitae as their rationale for being hired. Technical skills certainly are important, but are not enough to land a position in this field. We want individuals who are bright, energetic, and have applied their skills in rigorous scientific inquiry on specific questions. Applicants should make the recruiter aware of how their skills have been applied, and to what effect."

"Misconceptions also persist that industry compensation levels are much higher than academe. Some scientists have become financially very successful working in industry. But on the whole, the range of compensation is quite comparable in both worlds."

COMBINATORIAL CHEMISTRY:

Paul Hoeprich, Hewlett-Packard Company

Whether you use the traditional name combinatorial chemistry or the newer term "molecular diversity," this technology for rapidly synthesizing thousands of related compounds remains a fixture on the hot careers list. Combinatorial libraries consisting of all possible combinations of precursor molecules are a treasure trove of drug targets. Within the molecular diversity lie lead molecules and candidates for lead expansion, also pursued through the combinatorial approach.

"Combinatorial chemistry is an exercise in controlled serendipity," said Paul D. Hoeprich, program manager for molecular diversity technologies in Hewlett-Packard Company's Chemical Analysis Group in Wilmington, Delaware. "The career opportunities are plentiful."

Continued ➤

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SCIENTIST - Molecular Cellular Pharmacology

You will conduct/implement novel cell-based assays to monitor efficacy of protease inhibitors in models of inflammation and cancer; design/construct vectors for expression in mammalian cells; establish stable cell lines and transient expression systems to serve as cell-based assays for drug screening; and perform biochemical analysis of proteins and other cellular components to be measured quantitatively. The position requires a Ph.D. in biochemistry, cell biology or related field along with 2-5 years of postdoctoral experience, including expertise in cell biology, molecular biology and biochemistry. Qualified candidates will be well versed in the cultivation of primary mammalian cells & cell lines and will have hands-on experience with DNA cloning, PCR, mutagenesis, establishment of cell lines, and analysis of cellular products (ELISA, Western blots, flow cytometry, immunofluorescence). Excellent communication skills, ingenuity, and team spirit are a must. Experience in the fields of oncology, immunology and/or protease biology is highly desirable, as is a solid background in the development of cell-based assays, drug-screening and quantitative measurements. (Job# N98-150)

SCIENTIST - Pharmacology

Your work will focus on developing and implementing cellular and animal models of cancer for target validation and evaluation of compounds. You will be working with an interdisciplinary team of scientists to help develop novel drug candidates for the treatment of cancer. The position requires a Ph.D. in biochemistry, cell biology, pharmacology or related discipline; 2-5 years of postdoctoral experience; and a proven record of publication in peer-reviewed publications. Candidates must be computer literate and possess solid written/verbal communication skills. Experience working on oncology projects with a drug discovery biotech or pharmaceutical company is highly desirable. (Job# N98-149)

SCIENTIST & RESEARCH ASSOCIATE - Preclinical Science

These positions require a BS, MS or Ph.D. in pharmaceutical sciences, biopharmaceutics, biochemistry, analytical chemistry, or related field along with 3-5 years of LC/MS experience analyzing pharmacokinetic samples. A combination of the following training & skills is preferred: drug analysis (HPLC, LC/MS) in tissues & biological fluids as well as experience working with *in vitro/in vivo* systems to assess drug metabolism & oral bioavailability, with heavy emphasis on high-throughput screening, bioanalytical methods development, and metabolite identification using LC/MS. (Scientist-Job# N98-153, RA-Job# N98-152)

RESEARCH ASSOCIATE - Molecular Cellular Pharmacology

You will design/construct vectors for expression in mammalian cells; establish stable cell lines & transient expression systems to serve as cell-based assays for drug screening; implement/validate cell-based assays; and perform biochemical analysis of proteins & other cellular components (ELISA, Western blots, flow cytometry, immunofluorescence). The position requires a BS/MS; expertise in molecular biology, biochemistry and cell biology; hands-on experience with protein expression (mammalian cell preferred); proficiency with DNA cloning PCR, mutagenesis, cell line establishment and cellular product analysis; and strong communication skills. (Job# N98-102)

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Bioinformatics Database Architect #9861

As an active contributor to our bioinformatics group, you will be responsible for designing and building databases for a wide range of applications and data types including DNA and protein sequence analysis, differential gene expression, and protein-protein interactions. You will work with internal software developers and consultants to create custom interfaces and help develop a comprehensive system to integrate results obtained in different areas of our agribusiness unit. As a member of project teams, you will also work with biologists to help them manage and mine their own data as well as data from external sources for the discovery of new targets.

To qualify, you must have an MS degree in Computer Science and extensive experience with RDMS and OODBMS. Experience with PC and UNIX environments and ORACLE is essential. A working knowledge of molecular biology techniques is desired as well as familiarity with public databases containing data used in the life sciences. Background in the following is desirable: Java and JDBC, CORBA, LIMS systems, and an understanding of system design including object modeling, object-oriented design patterns, and GUI design and implementation. Individuals who can demonstrate extensive project management skills will be given special consideration. The team-oriented candidate we seek must possess excellent analytical, communication, and interpersonal abilities. Position #9861-SM-BRI.

Molecular Geneticist #9862

The successful candidate will lead Genetic and Molecular Biology research in our Plant Genomics area. We are looking for an individual with strong knowledge of monocot Plant Biology, general knowledge of Genetics and Plant Biochemistry, and familiarity with bioinformatics and sequence database mining. This position requires a Ph.D. degree in Molecular Biology, Genetics, Plant Biology, or a related field; post-doctoral experience is beneficial. A strong publication record and a creative approach to solving research problems are key qualities. The successful candidate will have the ability to work productively both independently and as part of a team. Position #9862-SM-BRI.

Plant Cell Biologist #9876

During your first year, you will partner with a senior scientist in Stanton, Minnesota to assimilate our maize protoplast technology. This includes breeding for transformability and regeneration from cell culture with subsequent cytological analysis of the regenerated plants. After one year you'll move on to Research Triangle Park, North Carolina to establish a maize protoplast transformation program to generate commercial candidates. Responsibilities will include conducting plant transformation experiments and preparing technical reports and presentations for the maize business unit.

To qualify, you must have a Ph.D. (or equivalent) in biological science and 5 years of plant transformation research experience. A background in cereal tissue culture, preferably maize, is essential. You must also be familiar with cereal protoplasts and protoplast regenerability. Position #9876-SM-BRI.

Plant Cell Biologist #9877

As a project leader in our Seeds Cereal Transformation Group, you will play a major role in establishing a rice transformation program. This will involve conducting plant transformation experiments, providing molecular biology support, and preparing technical reports and presentations.

To qualify, you must have a Ph.D. (or equivalent) in biological science and 5 years of plant transformation research experience. Familiarity with the genetic transformation of rice and an understanding of gene cloning and plant analysis are also essential. Position #9877-SM-BRI.

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Combinatorial libraries consisting of all possible combinations of precursor molecules are a treasure trove of drug targets. Within the molecular diversity lie lead molecules and candidates for lead expansion, also pursued through the combinatorial approach.

As the first scientist hired in late 1988 at Affymax Research Institute, Palo Alto, California, Hoeprich has been on the front lines as combinatorial chemistry proved itself capable of producing ever-more sophisticated molecules for drug development.

Perhaps because of combinatorial chemistry's relative maturity, career paths into the field are showing signs of becoming more formalized these days, Hoeprich noted. A well-known academic program at the doctoral level already exists at the University of Pittsburgh, and other schools are moving in the same direction. Anyone entering the molecular diversity field needs a good grounding in organic chemistry and organic synthesis, Hoeprich said. It should include hands-on experience with solution-phase and solid-phase organic synthesis, liquid chromatography, mass spectrometry, automated synthesizers, polymer supports, and other core technologies of combinatorial chemistry.

Hoeprich, who went to engineering school before getting a Ph.D. in chemistry, cited the value of courses outside the traditional chemistry/life science curriculum. "Engineering, optics, physics, and electronics courses are skills that can be very helpful in this field," he said, citing combinatorial chemistry's great reliance on automation and robotics. "Sampling these fields leaves you with experiences and new ways of thinking about problems."

None of these may prove more important in the future than programming and database management skills. "Information management is really the Achilles' heel of the whole combinatorial chemistry field right now," Hoeprich said. "Making libraries of molecules has become relatively easy. But it is far more difficult to keep track of the reagents, reaction conditions, purification protocol, and molecular structure for each of the thousands of molecules in each batch."

The mass of data must be stored in an easily addressable format, a data management infrastructure that can be used in screening and more advanced stages of drug development. Thus, a sound grasp of VisualBasic, C++, and other computer programming skills may open doors to combinatorial chemistry careers, Hoeprich said.

Myths and Misconceptions: "Although opportunities are still good, the rapid staff-building phase in combinatorial chemistry is nearing completion in industry. The future outlook will depend a great deal on how well combinatorial chemistry delivers on that investment. Nobody can tell for sure, but the outlook is certainly very good.

"If combinatorial chemistry continues to fulfill its potential, it will eliminate itself as a hot career field in the future. All the techniques will become a fully integrated part of synthetic organic chemistry and drug discovery. We're seeing a classic paradigm shift in which a revolutionary new technology replaces classical technology, and becomes the traditional prevailing way of doing the science."



HIGH-THROUGHPUT SCREENING

Jonathan Burbaum, Pharmacopeia

With researchers generating huge combinatorial libraries, often consisting of tens of thousands of structurally related compounds, there is growing emphasis on rapidly sifting through the abundance to identify potential new drug candidates. Does a particular compound interact in promising ways with enzymes, receptors, or other proteins? Or is it a dud, with no biological activity, unworthy of any further pursuit?

Scientists working in high-throughput screening (HTS), the highly automated group of technologies that go hand-in-hand with combinatorial chemistry, provide the answers.

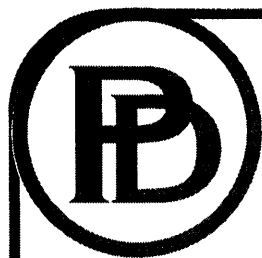
Jonathan Burbaum, group leader of High Throughput Screening New Technologies at Pharmacopeia, has participated in the phenomenal growth of HTS during

the last several years. Pharmacopeia is a drug discovery company in Princeton, New Jersey, that concentrates on small molecule combinatorial chemistry, high-throughput screening, and informatics. Using its patented ECLiPS system, Pharmacopeia's medicinal chemists have generated almost 4 million new compounds.



Jonathan Burbaum

Continued ➤



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The following positions are located in our Ann Arbor, MI facility:

Sr. Associate Scientist/Associate Scientist (Biotechnology)

You will be involved in supporting a wide range of interdepartmental research projects, with a primary focus on protein expression and a molecular resource core facility. To qualify, you must have a bachelor's and master's degree, and 3-5 years of experience in molecular biology skills. Strong knowledge of biology and advanced cell biology or molecular techniques (i.e. PCR, DNA sequencing, construct generation, eukaryotic expression systems and methods, bacterial expression systems, purification of bacterial proteins, and gene synthesis) is desirable. **Job Code RJB-98476**

Sr. Associate Scientist/Associate Scientist (Biotechnology)

You will be involved in a multi-disciplinary research program to discover drugs to treat and prevent atherosclerosis through research of novel drug targets, molecular mechanisms of atherosclerogenesis, and mechanism of action of compounds. To qualify, you must have a bachelor's and master's degree, and 3-5 years of experience in molecular biology. Strong knowledge of cell biology or molecular techniques (i.e. PCR, DNA sequencing, construct generation, eukaryotic expression systems and methods, bacterial expression systems, purification of bacterial fusion proteins, and gene synthesis) is desirable. **Job Code RJB-98475**

Sr. Scientist/Scientist (Cardiovascular)

In this role, you will work in gene therapy for therapeutic angiogenesis as part of a drug discovery program. Key responsibilities include identifying and testing novel genes, exploring viral and non-viral delivery systems, and finding the molecular and biochemical aspects of gene transfer experiments. To qualify, you must have a PhD in biomedical sciences with 4+ years of research experience. A strong record of peer-reviewed publications and experience in vivo gene delivery is essential. Team playing and interpersonal skills a must. Vascular biology experience is desirable. **Job Code RJB-98369**

Sr. Scientist/Research Associate (Biotechnology)

As part of a multi-disciplinary team, you will develop an exploratory research program in the areas of atherosclerosis, lipid biology, and metabolism. You'll discover novel drug targets, and gain an understanding of molecular mechanisms involved in atherosclerosis, as well as mechanisms of actions of compounds. To qualify, you must have a PhD in molecular biology, cell biology, biochemistry, or a related field, and 5+ years related experience. Atherosclerosis research experience (with peer-reviewed articles) is essential. A mastery of molecular, cell biology, and biochemical skills a must. Pharmaceutical research experience desirable. **Job Code RJB-98442**

Postdoctoral Fellowship (Kinetics Dynamics Metabolism)

You will utilize biophysical methods to generate and characterize cytochrome P-450-substrate binding complexes and conduct LC-NMR studies involving paramagnetic relaxation measurements to calculate the structure of the bound substrate in the cytochrome P-450-substrate complex. Key responsibilities include metabolite identification and LC-NMR applications development for the pharmacokinetics, dynamics and metabolism department. To qualify, you must have a PhD in biochemistry or a related field, and a solid background in protein purification techniques and NMR. Strong understanding of drug metabolism is helpful. **Job Code RJB-5529**

Postdoctoral Fellowship (Pharmacology)

You will be responsible for intracellular signaling mechanisms associated with monocyte-macrophage differentiation and foam cell formation upon exposure to modified lipoproteins. This position is available within the Vascular and Cardiac Diseases department. Additional responsibilities include establishing in vitro macrophage systems to evaluate the intracellular signaling mechanisms associated with elaboration of pro-atherogenic molecules which are responsive to cholesterol loading. Further, the candidate would characterize the concentration- and time-dependent expression of these pro-atherogenic molecules in mouse models of atherosclerosis using *in situ* hybridization and where appropriate immunohistochemistry. A PhD in Cell Biology with 0-2 years of technical experience in cell culture, coculture systems, Western and Northern analysis, PCR and cloning techniques, RNA isolation and *in situ* hybridization are required. A broad biochemistry knowledge of intracellular signaling pathways would be helpful. **Job Code CJM-98537**

The following positions are located in our Morris Plains, NJ facility:

Scientist (MID IR-NIR-Mass Spect.)

The ideal candidate will be responsible for development implementation and validation for on-line/process monitoring instrumentation for manufacturing processes. You will apply new and novel techniques to current laboratory and in process test methods and interact with site manufacturing and QC colleagues in the implementation of on-line and novel laboratory techniques. To excel in this position, you will need skills in HPLC & GC along with strong instrumentation and method development skills in optical spectroscopies such as MID-IR, NIR or Mass Spect. BS in Chemistry/Chemical Engineering with 5-10 years experience or MS with 2-6 years experience or PhD with 0-3 years experience. Travel required. **Job Code JJ-461**

Manager Pharma Development (Solid Dosage Formulation)

In this role, you will be primarily responsible for developing formulation development plans and protocols, monitoring activities and tracking progress for work conducted at contract laboratory facilities. You will also review reports and provide guidance to the contract firm on "next steps" in the process. Successful candidate should be well versed in the development of solid dosage forms leading to successful IND, NDA and MAA applications. A degree in Pharmacy or related science with experience in the area of Dosage Form Development, PhD with 5-6 years experience or MS with 10-12 years experience. Excellent oral and written communication skills a must. Travel required. **Job Code MG-370**

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- Applicants (and fellows) may not have faculty appointments
- Fellows may not be enrolled in graduate degree programs
- No citizenship requirements for application; U.S. citizens may study abroad, but others must study in the United States

Schedule

- Application deadline: December 4, 1998
- Awards announced: July 1999
- Fellowships start: September 1, 1999–September 1, 2000

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HOT TIPS FOR HOT CAREERS:

A Head Hunter's Perspective

Linda St. James, Search Masters International



Linda St. James

As a biotechnology recruiter with Search Masters International in Sedona, Arizona, Linda St. James has been helping employers fill hot career positions since 1987. We asked her to share that wealth of experience with job seekers:

"Hot career niches—the world of biotechnology revolves around them. The industrial life sciences have always been centered on hot technology, and this represents a good news/bad news situation for job seekers. It is wonderful to hit pay dirt with your grad school or postdoctoral training. But it's tough to turn around on a dime and try to target something new. The roller-coaster world of 'what's hot and what's not' doesn't allow much time to retrain. Even though specific niche areas are difficult to read in advance, the trends behind them can be quite illuminating.

"The trend, in this case, is clear: drug discovery tools are hot. These career niches emerge from a change occurring at the most basic of biotechnology levels: money. Investors are not seeding ventures today unless they have some new, faster method of getting to the goal of new products.

"Will this continue? Yes—and trend spotting can be a fun and potentially very valuable skill area for a scientist. Here are some further thoughts, and other tips gathered from the account executives at our company who recruit for biotechnology and pharmaceutical employers:

"Trend spotting is easiest when you keep a constant eye out for press releases describing new businesses just funded by venture capital. Venture capital firms are the earliest indicator of what will be hot in the future. You can find press releases and company information about new biotechnology companies on sites like PR Newswire, YAHOO Finance, Bio Online, and BioSpace.

"Identify what drug discovery prospects might lie in your field of research. How would companies use the skill areas that you offer to further develop their tools for discovery and/or development? When writing an 'industrial version' of your curriculum vitae, highlight these skill areas that you believe will be of interest.

"Remember that no matter how hot your science career niche, job searching still requires patience, persistence, and optimism to avoid frustration. Prospects for talented scientists in industry are bright, but actual job offers may be sporadic. You probably will have to decide on job offers quickly, one at a time, without the luxury of picking the best among several. A decision made over a weekend may affect your entire future. So establish your criteria for accepting a job in advance.

"Individuals in a hot skill area often are asked to give a seminar on their work during the job interview process. Try to convince the company of your abilities in four key areas: scientific skills (using data that shows well-developed experiments and critical thinking); communication skills (how well you address a group, your eye contact, and appearance); ability to do the job at hand (how you relate to the job description); and your listening skills (how well you listen to questions and tailor your responses)."

"High-throughput screening has evolved rapidly," Burbaum said. "It's an extremely hot career field right now. There may be more emphasis on automation and robot technology in the future, but the demand for skilled scientists should remain very strong."

Few people now working in HTS planned it that way. Most learned as they worked. Many migrated to HTS naturally because of academic backgrounds and a combination of interests. Individuals in HTS often have degrees in biochemistry, cell biology, or other life sciences. They have an affinity for computers and are good with mechanical things.

What would Burbaum advise the student or postdoc considering a career in HTS?

"I look for people with clearly 'applied' backgrounds, with a bend toward engineering. The science has to be strong but 'applied.'"

A broadly based knowledge of computers and their application in science also is valuable, especially an understanding of the C computer language Visual Basic, Oracle, and Excel.

Of the new trends in HTS, none is more pronounced than the drive to miniaturization, which permits faster screening and characterization of more potential drug candidates. Burbaum and his associates at Pharmacopeia are working with plates that hold about 1 microliter, about 1/100th of the current nominal working volume in other assays.

"I think that in the next couple of years, you're going to see a much different HTS lab than you see right now. Processes will be done in a massively parallel and highly miniaturized fashion. Emphasis may switch from generating data to data management and data mining."

People who enter the field may need more database skills and ability to interpret and use screening results in the most productive way.

Myths and Misconceptions: "Many people think that HTS involves just screening more compounds and screening them faster. HTS does emphasize rapid generation of information about a molecule's interactions with enzymes or receptors. But we've got to produce high-quality information relevant to drug development. HTS requires much more of an intellectual challenge than is commonly appreciated. Distinguishing false positives and false negatives from real 'hits' requires true creativity. When you see hints of activity in a molecule, you've got to ask whether it is real, or just an artifact or an outlier, or some other effect not worth pursuing. Make the wrong decision and you could waste weeks or months, or overlook a potential drug candidate." ■

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CLONTECH

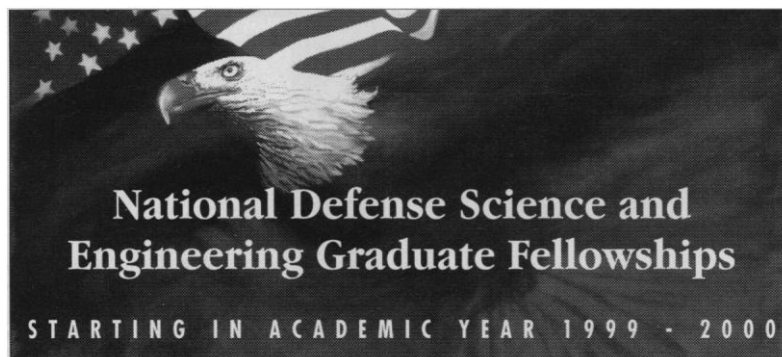
Innovative Tools to Accelerate Discovery

CLONTECH Laboratories, Inc. is a dynamic, privately held biotech company that manufactures innovative products for advancement of life science research. With the thousands of genes thus far identified, new horizons have opened up. The Genomics Era has evolved into the Functional Genomics Era, and the challenge now is to elucidate the function of the proteins encoded by the myriad of genes characterized. CLONTECH is prepared to help scientists forge ahead into this brave new era. Our mission is to help accelerate the discovery process by providing pioneering tools that enable researchers to ask new questions and investigate ever more complex systems than was previously possible. Currently we have the following openings for:

- **Research Scientists**
- **Research Associates**

CLONTECH offers a competitive salary and benefits package including a stock option plan. Send/fax resume to: CLONTECH Laboratories, Inc., attn: HR, 1020 E. Meadow Circle, Palo Alto, CA 94303. Fax: (650) 354-0775 or email: hr@clontech.com. Visit our Website at www.clontech.com. EOE/AA/M/F.

FELLOWSHIP



As a means of increasing the number of U.S. citizens trained in disciplines of science and engineering of military importance, the Department of Defense plans to award approximately 90 new three-year graduate fellowships in April 1999. National Defense Science and Engineering Graduate Fellowships may be awarded for study and research leading to doctoral degrees in, or closely related to, the following disciplines:

AERONAUTICAL AND ASTRONAUTICAL ENGINEERING
BIOSCIENCES (Includes Toxicology)
CHEMICAL ENGINEERING
CHEMISTRY
COGNITIVE, NEURAL, AND BEHAVIORAL SCIENCE
COMPUTER SCIENCE
ELECTRICAL ENGINEERING
GEOSCIENCES (Includes terrain, water, and air)
MATERIALS SCIENCE AND ENGINEERING
 (Includes Manufacturing Sciences and Engineering)
MATHEMATICS
MECHANICAL ENGINEERING
NAVAL ARCHITECTURE AND OCEAN ENGINEERING
OCEANOGRAPHY
PHYSICS (Includes Optics)

National Defense Science and Engineering Graduate Fellows selected in 1999 will receive a stipend in addition to full tuition and required fees. The stipend amount starts at \$17,000.

Recipients of 1999-2000 National Defense Science and Engineering Graduate Fellowships do not incur any military or other service obligation.

Specific information regarding the fellowship and an application package are available from Battelle Memorial Institute, a not-for-profit research institution, which is administering the program for the Department of Defense.

Additional information and an application are available from:

NDSEG Fellowship Program
 200 Park Drive, Suite 211
 P.O. Box 13444
 Research Triangle Park, NC 27709-3444
 ATTN: Dr. George Otterson
 Phone: (919) 549-8505
 Fax: (919) 549-8205
 NDSEG@ARO-EMH1.ARMY.MIL
 http://www.battelle.org/ndseg



Completed applications must be received by Battelle by **January 20, 1999**.

SCIENCE CAREER FAIR



Protein Design Labs, Inc. (PDL) is developing SMART™ (humanized) and human monoclonal antibody-based therapeutics for various diseases and novel gene-based, small molecule compounds to treat antibiotic-resistant and other microbial infections. Our interdisciplinary approach to drug discovery and development utilizes computer-based design, molecular biology, immunology, protein chemistry, microbiology and combinatorial chemistry to create potential new treatments for serious medical conditions. Currently, we have several excellent opportunities in our new Fremont, California location for dedicated individuals to join our growing R&D team.

- Postdoctoral Fellows
- Scientists/Staff Scientists
- Clinical Research Assocs

- Research Assocs/Assists
- Development Associates/Assistants

We offer a fast-paced, team-oriented environment, competitive salaries & benefits, and attractive stock options. To learn more about an exciting career with PDL, visit our website at www.pdl.com, or stop by and see us at the **Science Career Fair** being held at **Stanford University** on **October 23rd & 24th**. You may also send your resume to:

Protein Design Labs, Inc.
 HR Dept. - Attn: Job# SCI1016-VW
 34801 Campus Drive, Fremont, CA 94555
 fax: (510) 574-1448; email: hr@pdl.com



www.pdl.com

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Affymax Research Institute is a recognized leader in the emerging field of combinatorial chemistry, with an awesome portfolio of sophisticated technologies specially designed to revolutionize the drug discovery process. How do we do it? It starts with people like you...innovative, highly-motivated professionals with an unparalleled desire to advance the future of drug discovery. Factor in the prolific achievements of our parent company, GlaxoWellcome (the world's largest pharmaceutical company), and our state-of-the-art interdisciplinary research setting, and the end result is groundbreaking scientific discoveries! Our continued growth has created great opportunities for the following positions:

**Research
Assistants, Associates & Scientists**

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We offer an excellent compensation and benefits package. Please forward your resume to:

Affymax Research Institute
 Human Resources Dept.
 3410 Central Expressway
 Santa Clara, CA 95051
 E-mail: ari_jobs@affymax.com
 EOE



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EXECUTIVE DIRECTOR COMMISSION ON LIFE SCIENCES

We are seeking a proven leader to play a key role within two major program units of the NRC. The selected individual will direct programs and activities for the Commission on Life Sciences (CLS) — focusing on science and technology policy issues with a strong biological component. In addition, the incumbent also currently performs the duties of Executive Director of the Board on Agriculture (BA). The BA is another of the NRC's major program units focusing on the application of agricultural science and technology to national policy issues.

As a member of the NRC's senior leadership team, the Executive Director will utilize skills in program development, policy formulation, and management while leading a staff of 50. Candidates should have a Ph.D. or equivalent in the life sciences area, substantial research experience, and expertise in policy analysis. Excellence in team building, human resources management, as well as written and oral communications are essential.

For consideration, please forward your resume with salary requirements to: **Office of Human Resources, Dept. SW, The National Research Council, 2101 Constitution Avenue, NW, Washington, D.C. 20418.**

Fax: (202)334-1746.

E-mail: ohrresum@nas.edu

EOE, M/F/D/V

www.nas.edu

National Research Council
National Academy of Sciences
National Academy of Engineering
Institute of Medicine

Experts Providing Answers

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Located in Princeton, New Jersey, Pharmacopeia is a world leader in the field of drug discovery using small molecule combinatorial chemistry, high-throughput screening and informatics. What sets us apart from others in our industry is our unique patented encoding technology ECLIPS™, which identifies individual organic compounds from combinatorial libraries containing millions of such compounds. It is this commitment to pioneering innovative technology that makes our forward thinking company a great environment for highly motivated professionals who want to grow with a leader.



BIOLOGISTS

In these critical roles, you will establish and validate assays and perform high-throughput screening. In addition, you will be involved with cloning, expression of biochemically active proteins, and mammalian tissue culturing.

The qualified candidates we seek for these positions will possess either a Bachelor's, Master's or Ph.D in Biochemistry or Biology and one + years of relevant research experience in molecular and cell biology. Experience with enzymologist and biochemistry is required. Proficiency with computers and software programs is required, as is the ability to exercise technical discretion in the design, execution and interpretation of experiments. JOB CODE: BIO



SYNTHETIC/ORGANIC CHEMISTS

Working as a Research Assistant, you will record experimental procedures and results, present results and details at group meetings, and prepare drafts for publication. In addition, you will bring any results that require analyzing to the supervisor's attention, while contributing ideas and suggesting approaches to troubleshoot problems.

The qualified candidates we seek for these positions will possess either a Bachelor's, Master's or Ph.D in biochemistry or Chemistry. Proficiency with computers and software programs is required, as is the ability to exercise technical discretion in the design, execution and interpretation of experiments. JOB CODE: SOC

We offer a competitive compensation and benefits package, including stock options, 401(k) and tuition reimbursement, as well as an exciting atmosphere conducive to professional growth. Please submit your resume, cover letter, including salary history and job code to: Pharmacopeia, Inc., Human Resources, CN-5350, Princeton, NJ 08543-5350; Fax (609) 452-3671. E-Mail: recpt@pharmacop.com
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PHARMACOPEIA

PRINCIPLE/SR. ASSOCIATE RESEARCH SCIENTIST

THE BAYER FACTS:



Bayer:

**A premier
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company for
the 21st century.**

- In the highly competitive global pharmaceutical marketplace, there are many "Bayer Facts" that distinguish us as a leader. To name a few, we are part of Bayer Corporation, a \$32 billion international diversified organization and one of the most broadly-based healthcare companies in the U.S. Our Clayton facility is the largest of its kind in the world and is primarily involved in the manufacture of **Biological Products**. This position is based out of our **CLAYTON, NC** facility which is located near Raleigh, NC.
- In this position, the candidate will conduct research for the evaluation and development of scaleable protein purification processes, typically for new protein therapeutic products. The successful candidate will be responsible for evaluation of purification unit operations, such as filtration, ultrafiltration, column chromatography, centrifugation, virus inactivation or removal, and affinity interactions. The successful candidate will be expected to work effectively in a team-oriented, interdisciplinary environment.
- To qualify, we require a Ph.D. in Biochemistry, Biotechnology, Biochemical Engineering with 1+ years experience, MS with 4+ years or a BS with 6+ years, or equivalent. Knowledge or experience in the integration of unit operations into a purification process is necessary, as well as experience with scaleable equipment and procedures. Candidates should possess skills in data analysis, including statistics, and report writing, and preference will be given to candidates in the pharmaceutical industry with a working knowledge of GLP and/or GMP.
- For immediate consideration, please forward your resume (indicating response code 98-226) including salary history to: **SK/Human Resources Representative, Bayer Corporation, Pharmaceutical Division, P.O. 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 enhancing and maintaining cultural diversity within our work environment.



Pharmaceutical
Division

Biological Products

Changing the world with great care

ONCOLOGY POSITIONS

DNAX Research Institute, located near Stanford University, has openings for 2 staff scientists in the Department of Cell Signaling. Candidates should hold a PhD and/or MD and have completed postdoctoral training. Experience as an independent investigator is preferred.

The Institute conducts research in a variety of areas of molecular and cellular biology, with an emphasis on immunobiology and oncology. The Department of Cell Signaling has expertise in the areas of protein phosphatases, cell cycle regulation and cytokine signaling. We are seeking creative individuals with a strong background in Oncology who can contribute innovative science to this productive research program. You will enjoy strong interactions with colleagues, specifically in the Immunobiology and Molecular Biology departments. We are particularly interested in expertise in any of the following: Apoptosis, Cell Cycle Regulation or Checkpoint Control Pathways. Applicants with closely related interests may be considered.

The successful candidate will be expected to establish an independent research program in their area of interest and will have the opportunity to conduct basic research in the absence of teaching and grant writing responsibilities. DNAX scientists work in an academically styled environment complemented by a strong and international post-doctoral program.

Qualified applicants should send a curriculum vitae, a one-page statement of research interests, and the names of three references to: Human Resources Department, DNAX Research Institute, 901 California Avenue, Palo Alto, CA 94304-1104. DNAX is an equal opportunity employer, m/f/h/v.



Postdoctoral Position in Molecular Oncology

A postdoctoral position is available immediately to study the role of the PTEN tumor suppressor gene in tumorigenesis and normal development in the brain. Somatic mutations in PTEN occur frequently in diverse human tumor types, and germline mutations are associated with an increased cancer predisposition as well as a variable range of developmental abnormalities. We will focus on the role of PTEN in the brain using in vitro and in vivo model systems including conditional knockout technology.

St. Jude Children's Research Hospital has state-of-the-art facilities and a highly interactive environment. This position is ideally suited to applicants who have recently received a Ph.D. with experience in molecular biology and a background in cancer biology, signal transduction, or neuroscience.

Interested candidates should send curriculum vitae and three letters of recommendation to:

Suzanne J. Baker, Ph.D.
Department of Developmental Neurobiology
St. Jude Children's Research Hospital
332 North Lauderdale, Memphis, TN 38105.
EOE



SUGEN

SUGEN is a biopharmaceutical company doing cutting edge research in drug discovery and development. We seek qualified team players for the following positions.

SCIENTIST Oncology Signaling

Working with the Oncology Signaling Group, you will participate in discovery research into novel signaling pathways involved in human cancer. This position requires a PhD and at least 3 years experience with mammalian growth factor signaling pathways. Post-doctoral and/or industry experience and strong communication skills are highly desired. Job Code: TS-SCI.

SCIENTIST Molecular Genetics

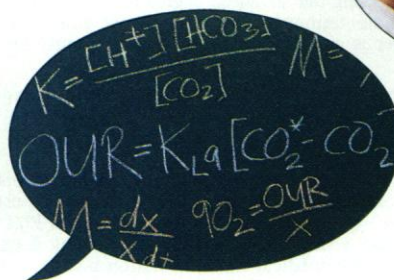
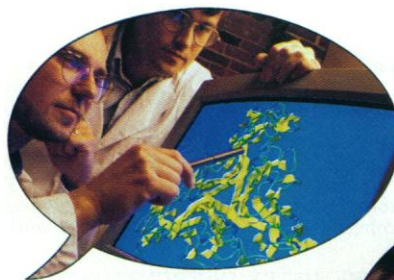
This is an excellent opportunity for a molecular biologist to join our Gene Expression Group. Requires a PhD in Molecular Biology or related field, with 2-5 years relevant experience. The ideal candidate will have a strong background in gene expression analysis and cDNA cloning, as well as research experience in the molecular mechanisms of oncogenesis. Pharmaceutical experience is preferred. Job Code: DW-SCI.

Other opportunities exist for RESEARCH ASSOCIATES.

If interested, please respond as indicated below.

We have recently moved to a 100,000-square foot, state-of-the-art facility in South San Francisco. We offer competitive salary and benefits, including stock options. Please send resume, indicating Job Code, to Human Resources, SUGEN, Inc., 230 East Grand Ave., South San Francisco, CA 94080. Email to: jobs@sugen.com (MS Word documents preferred; indicate Dept. code). EOE.

www.sugen.com



**If you speak
our language.**

IMMUNEX

FELOWES PROGRAM

Applications are invited for postdoctoral fellowships at the Beckman Institute for Advanced Science and Technology at the University of Illinois at Urbana-Champaign. The Beckman Institute is a multi- and interdisciplinary research center that focuses on three main research themes: Biological Intelligence, Human-Computer Intelligent Interaction, and Molecular and Electronic Nanostructures (<http://www.beckman.uiuc.edu>).

The Beckman Institute Fellows Program provides an excellent opportunity for young scholars to initiate a post-Ph.D. career of independent research in a stimulating and supportive interdisciplinary environment. The fields of research encompassed by the fellowship program include the behavioral and biological sciences, chemistry, physics, and engineering.

1999 Fellows will be appointed for up to 3 years, beginning as early as June 1999, and no later than December 1999. The stipend is \$42,000/year, plus benefits and a research budget. Selection of Fellows is based on evidence of professional promise, capacity for independent work, outstanding achievement to date, and interdisciplinary research interests corresponding to one or more of the Institute's programs. To be eligible, the Ph.D. must have been held for no more than 4 years (i.e., received no earlier than December 31, 1994).

Application Procedure:

Application packets should be requested from:
jweaver@uiuc.edu or Julie Weaver at 217-244-5582.
Please include your full mailing address.

Deadline:

A postmark no later than Friday, January 8, 1999. Announcement of Fellows will be made on or about April 15, 1999.

99

BECKMAN INSTITUTE FOR
ADVANCED SCIENCE AND TECHNOLOGY
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

The Beckman Institute Fellows Program is supported by funding from the Arnold and Mabel Beckman Foundation. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.



DAKO CORPORATION

DAKO is an international biotechnology company that manufactures and markets immunological reagents and diagnostic kits for use in hospitals, research laboratories, and for various industrial purposes. DAKO is one of the world's leading manufacturers of antibodies. Its IVD products are used in many fields including histology, clinical chemistry, hematology, immunology, and microbiology. DAKO provides a competitive benefits package, a great working environment, and is located near Santa Barbara.

PROJECT MANAGER/IMMUNOHISTOCHEMISTRY INSTRUMENTATION

The successful candidate will provide project oversight for automated immunohistochemistry (IHC) instrumentation. Plans and coordinates activities to ensure timelines are met, interacts frequently with management teams, including engineers, chemists, and marketing personnel.

Qualified applicants will possess a B.S. in engineering (an advanced degree preferred) and prior experience of 5-10 years with medical instrumentation, including hardware and software. Prior demonstrated success as a Project Manager is required. Experience with Quality System Regulations strongly desired.

Must possess excellent written and oral communication skills as well as personal computer skills. Must demonstrate strong leadership and organizational skills.

SCIENTIST/PROJECT MANAGER-IMMUNOHISTOCHEMISTRY

Position available for a creative, highly motivated individual with expertise in biochemistry/chemistry to be a part of the R&D team responsible for developing new reagents for use in immunohistochemistry and related technologies. Qualified applicants will possess a Ph.D. in Biochemistry or related field. A minimum of 2-5 years of experience in developing diagnostic reagents and products desired. Experience with medical instrumentation also desirable. Must have prior project management and supervisory experience.

Please mail or fax résumés to:

**Human Resources Department
DAKO CORPORATION
6392 Via Real
Carpinteria, CA 93013
Fax: 805-684-5935
No telephone calls, please.**



The Bios Group is a rapidly growing software/consulting company applying results of research in complexity and complex adaptive systems (CAS) to solve business problems. Located in Santa Fe, New Mexico, we are looking for enthusiastic self-starters who thrive in a fast-paced environment. Bios is hiring individuals with backgrounds in CAS, physics, mathematics, biology, or chemistry who possess outstanding simulation and analysis skills. At Bios, **Senior Scientists** interact with clients to define problems and work with **Scientists** and **Software Engineers** to implement solutions. We have an ongoing need to fill all three positions.

Additionally, we have openings for **Postdoctoral Fellows** with similar educational backgrounds to work with **Dr. Stuart Kauffman**. These positions involve work in computational biology with a focus on genetic regulatory networks, complex chemical reactions, and the origin of life.

Bios offers competitive salary and benefits as well as participation in our financial growth. Please forward résumés to:

**Bios Group, LP
317 Paseo de Peralta
Santa Fe, NM 87501
Attn: Johanna Hilla
johanna@biosgroup.com
www.biosgroup.com**

THE NEUROSCIENCES INSTITUTE SAN DIEGO, CALIFORNIA

The Neuroscience Institute is an independent, not-for-profit organization at the forefront of research on the brain. Research at the Institute spans levels from the molecular to the behavioral and from the computational to the cognitive. The Institute has a strong tradition in theoretical neurobiology and has recently established experimental facilities; it is also the home of the Neuroscience Research Program and serves as an international meeting place for neuroscientists. For additional information see <http://www.nsi.edu>. The Institute invites applications for the following positions:

ASSOCIATE FELLOW, NEUROPHARMACOLOGY

Applicants should have a strong background in central nervous system pharmacology and should be at the advanced postdoctoral or Assistant Professor level. Successful candidates will be capable of developing an innovative research program and will be expected to take advantage of opportunities for scientific interactions with Fellows in Experimental and Theoretical Neurobiology.

POSTDOCTORAL FELLOW IN EXPERIMENTAL NEUROBIOLOGY

A current focus of the Institute is on the action and pharmacological manipulation of neuromodulatory systems with diffuse projections, such as the noradrenergic, serotonergic, cholinergic, dopaminergic, and histaminergic systems. Another focus of the Institute is on gene networks that affect the development and function of the nervous system. Other research areas include systems neurophysiology, *Drosophila* genetics, neural development, and the functions of sleep. Applicants should have a strong background relevant to ongoing research in the above-mentioned areas. Ph.D. or equivalent required at time of employment.

JUNIOR FELLOW IN THEORETICAL NEUROBIOLOGY

Since 1987 the Institute has had a research program dedicated to developing biologically based, experimentally testable theoretical models of neural systems. Current projects include large-scale simulations of neuronal networks and analysis of functional interactions among brain areas using approaches based on information theory. Advanced computing facilities are available. Applicants should be at the postdoctoral level with a strong background in mathematics, statistics, and computer modeling.

JUNIOR FELLOW, NEURAL BASIS OF CONSCIOUSNESS

The Institute has a strong tradition in the theoretical and experimental study of consciousness. Applicants interested in collaborating on experimental and theoretical studies of the neural correlates of conscious perception should have a background in cognitive neuroscience and neuroimaging (including MEG, EEG, and fMRI). Experience with designing visual and auditory stimulation paradigms and with the statistical analyses of imaging data is especially desirable.

All Fellows receive stipends and research support commensurate with qualifications and experience. Positions are now available. Applications should contain a short statement of research interests, a curriculum vitae, and the names of three references and should be sent to: **Research Director, The Neurosciences Institute, 10640 John Jay Hopkins Drive, San Diego, CA 92121.**



Faculty Position in Neuroscience at Children's Hospital Harvard Medical School

The Division of Neuroscience at Children's Hospital is inviting applications from M.D. or Ph.D. scientists for the position of Assistant Professor. The possibility exists for a joint appointment in the Department of Neurobiology at Harvard Medical School. Applicants should have an outstanding research background in any area of developmental, cellular, or molecular neurobiology.

Send a curriculum vitae, current and future research plans, relevant reprints, and 3 letters of reference to:

**Michael E. Greenberg, Ph.D.
Director, Division of Neuroscience
Children's Hospital
Harvard Medical School
300 Longwood Ave.
Boston, MA 02115**

Harvard Medical School is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are encouraged to apply.

Genomics Division Leader

A leadership position is available within the nationally recognized Biology and Biotechnology Research Program at Lawrence Livermore National Laboratory (LLNL). The main focus is to develop and expand an integrated program in functional genomics.

In this high profile position, the qualified candidate will direct the Livermore Human Genome Center and act as an interface to the U.S. Department of Energy Joint Genome Institute. He/she will also provide oversight of the high-throughput DNA sequencing, the IMAGE cDNA, functional genomics (mouse and microbial), and bioinformatics teams. The successful candidate is expected to supervise a group of interactive senior scientists, conduct related research projects, and expand an established funding base.

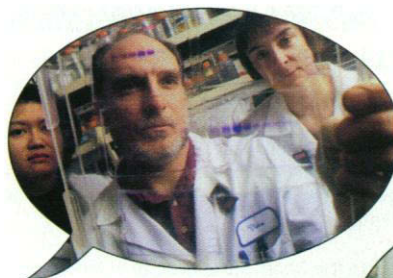
Candidate should possess MD/Ph.D. in molecular biology or related field with a strong research publication record; demonstrated management and leadership skills; and a commitment to collaborative research in a team environment. Experience as an independent principal investigator is essential.

U.S. Citizenship and the ability to obtain and maintain a Department of Energy "Q" clearance are required.

LLNL offers a dynamic work environment and a competitive salary/benefits package. Fax CV and contact addresses of three references to fax 925-424-2579, or send to: University of California, Lawrence Livermore National Laboratory, Biology and Biotechnology Research Program, Attn: Chris Skillern, Dept. AJSCAG8BS, L-452, P. O. Box 808, Livermore, CA 94551. LLNL is an Equal Opportunity Employer.

Visit our website at www.llnl.gov/jobs for complete job descriptions and a listing of employment opportunities at LLNL.

University of California
**Lawrence Livermore
National Laboratory**



**If you like what
you're hearing.**

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KECK GRADUATE INSTITUTE
of Applied Life Sciences

Founding Faculty in Applied Life Sciences

Keck Graduate Institute of Applied Life Sciences, the newest member of the Claremont Colleges, is seeking founding faculty members, at all career levels, to help create and implement an innovative graduate program in applied life sciences.

KGI will focus on offering professionally oriented Master's degrees, but will support a small interdisciplinary, applied sciences doctoral program as well. Its curriculum will synthesize multiple disciplines that apply to life and medical sciences, including biological sciences, engineering, computer science, and applications-centered physical sciences.

Candidates should be creative, independent in spirit, dedicated to excellence, and enthusiastic about innovation. They must possess significant experience in **academic or industrial science and/or engineering**, a taste for working in interdisciplinary groups, and a proven record of achievement. Founding faculty members will be expected to establish high-quality research programs, create and teach new courses, and forge strong connections with industry (e.g., biotechnology, pharmaceuticals, biomedical instrumentation companies), including practical training opportunities. It is expected that the faculty will come from both industry and academia and relate well to both environments.

Areas of research of particular interest initially include computational biology / informatics, and genomic and proteomic technologies. Additional areas of interest are bioengineering, drug discovery, and other fields fundamental to the future applications of the life sciences.

Compensation is highly competitive and includes an excellent benefit package. The Institute will adhere to liberal leave and consulting policies.

KGI is located 35 miles east of Los Angeles, at the foot of the San Gabriel Mountains. Its campus is contiguous with those of the other Claremont Colleges. A rich intellectual and cultural environment is provided by the colleges and the surrounding institutions in southern California.

For additional information, visit our website at www.KGI.edu. Inquiries and applications should be addressed to:

Professor David Galas, Chief Academic Officer
Keck Graduate Institute of Applied Life Sciences
1263 North Dartmouth Avenue, Claremont, CA 91711
909 / 607-7855 E-mail: bonnie_busenbergl@kgi.edu

Keck Graduate Institute is an Equal Opportunity Employer.

UNIVERSITY OF CINCINNATI

Director of Physician Scientist Training Program

(98UC0967) The University of Cincinnati College of Medicine invites applications for the position of Director of the Physician Scientist Training Program (PSTP), the College's MD/PhD combined degree program. This recruitment is targeted to an active investigator who would also have a leadership role in training physician scientists.

As director of the PSTP, the incumbent will report to the Dean of the College of Medicine and will provide strategic leadership, overall guidance, and daily management for the program of 31 MD/PhD students. The director will be responsible for coordinating all activities related to the program which include faculty participation, student recruitment, budget development, student pathway selection, enrollment, evaluation, and implementation of program policies. More information on the PSTP program and this position can be found at <http://www.med.uc.edu/pstp/director>.

The ideal candidate will have an outstanding record of externally funded peer-reviewed research, as well as a strong commitment to graduate and medical education. The candidate will have a full-time faculty appointment in the relevant department of the College of Medicine. Candidates must have an MD/PhD, MD, or PhD degree.

Resumes accepted until filled. Interested applicants should submit a curriculum vitae (including control #) and the names of at least three references to:

University of Cincinnati College of Medicine
Office of Faculty and Administrative Affairs
Attn: PSTP Director Search
231 Bethesda Avenue
PO Box 670554
Cincinnati OH 45267-0554



The University of Cincinnati is an affirmative action/equal opportunity employer. Women, minorities, disabled persons, Vietnam-era and disabled veterans are encouraged to apply. UC is a smoke-free environment.

Roche

vitamins

Biotech

Your expertise belongs at our Center of Excellence.

Take biotechnology and your career in a new direction at Roche Vitamins Inc., an industry leader for human and animal health and nutrition. At the new home of our global Center for Excellence in Biotechnology in Nutley, NJ, we are developing new products and processes in a range of areas including vitamins, carotenoids, food ingredients, enzymes, and medicated feed additives.

Our team of experienced professionals will focus on developing and optimizing microbes for producing metabolites and enhancing large-scale fermentation processes. Right now, we have outstanding opportunities for research scientists and senior research scientists at the PhD and MSc level.

Protein Chemistry/Enzymology

To qualify, you must have extensive experience in protein purification and analysis, or enzymology. Experience in the analysis of enzymes of the central metabolic pathway, and of specific enzymes of secondary pathways, is highly desirable. Molecular biology experience is a definite asset. Positions require Ph.D. with 3-5 years experience or MSc. with 5-7 years experience. Dept CE.

Microbiology

To qualify, you must have a strong background in bacterial physiology and extensive experience with mutation, selection and screening approaches. Experience in microbial genetics and fermentation technology is a definite asset. Positions require Ph.D. with 3-5 years experience or MSc. with 5-7 years experience. Dept MIB.

Analytics

To qualify, you must have demonstrated experience analyzing organic compounds using HPLC, UV/VIS and mass spectrometry advanced techniques. A background in protein analytics and enzyme assay is an asset. Position requires MSc. with 5-7 years experience. Dept AS.

We offer an excellent compensation package commensurate with your qualifications, and a progressive environment that's conducive to professional growth. For immediate consideration, send your resume or cv indicating salary requirements and appropriate dept code, to: Human Resources Dept., Roche Vitamins Inc., 45 Waterview Blvd., Parsippany, NJ 07054-1298. Principals only. We appreciate your interest in Roche Vitamins Inc., but can only respond to qualified candidates. Roche Vitamins Inc. is an equal opportunity employer fully committed to diversity in the workplace.

You can be part of our Vision for the Future!

As the world's leading research-based biotech supply company, our vision for the next century is crystal clear. Our goal is to be the premier supplier of innovative Products and Systems which enable biotechnology and pharmaceutical companies to discover, develop and produce tomorrow's health enhancing products with greater speed, convenience and safety.

Our continued growth and relocation of facilities to our North American headquarters complex located in Piscataway, NJ has created an array of opportunities encompassing multiple career levels.

We are currently seeking candidates for the following areas:

R&D SCIENTISTS & RESEARCH ASSOCIATES

- MANUAL & AUTOMATED SEQUENCING
- PROTEIN EXPRESSION & PURIFICATION
- MOLECULAR BIOLOGY
- NUCLEIC ACID SAMPLE HANDLING
- REAGENT STABILIZATION

These positions are located at our campus-like setting in Piscataway, NJ. All positions offer a very competitive total compensation and benefits package which includes medical, dental, pension & 401(k) plans plus tuition and health club reimbursement.

If you would like to be an important part of our future success forward a scanable resume which must include salary requirements to: HR Source-Dept. SCI, Attn: Amersham Pharmacia Biotech, 303 East 17th Ave., Suite 303, Denver, CO 80203. E-mail:

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**The Department of
Biological Sciences
Southern Illinois University
Edwardsville**

invites applications for 3 tenure-track positions at the Assistant Professor level.

DEVELOPMENTAL GENETICIST. We seek applicants with broad training in genetics, molecular biology, and animal development. The successful candidate will share responsibility for teaching a genetics course for biology majors and will design an advanced course in developmental biology. Candidates will also be expected to participate periodically in non-major courses in biology. Candidates should exhibit potential for independent and innovative research involving Master's and undergraduate students. Qualifications: Ph.D. in biology or related field with specialization in genetics and developmental biology. Postdoctoral teaching and/or research experience strongly preferred.

ENVIRONMENTAL BIOLOGIST. We seek applicants with a background in field biology/ecology and monitoring, with proficiency in quantitative methods (e.g., statistical, empirical, simulation and/or GIS modeling), and experience and commitment to research in climate change and/or pollution. The successful candidate will develop two courses in the SIUE Environmental Studies program including a graduate course in quantitative methods, teach other courses as requirements or electives in the program, and develop a strong research program in climate change and/or pollution. Candidates should exhibit potential for independent and innovative research involving Master's and undergraduate students. This is a joint appointment with the Graduate Program in Environmental Studies. Qualifications: Ph.D. in biology or related field with specialization in field biology/ecology. Experience or education in ecosystem management is desirable. Postdoctoral teaching and research experience preferred.

ENVIRONMENTAL PHYSIOLOGIST. We seek applicants with broad training in animal physiology and an interest in physiological adaptations to the environment. The successful candidate will share responsibility for teaching an introductory animal systems course for biology majors and will design an advanced course in environmental physiology. Candidates will be expected to participate in non-major courses in biology and should exhibit potential for independent and innovative research involving Master's and undergraduate students. Qualifications: A Ph.D. in biology, zoology, or animal physiology. Postdoctoral teaching and research experience preferred.

To apply send letter of application, statement of teaching and research interests, *curriculum vitae*, copies of all transcripts, and names and addresses of three references to: **CHAIR**, (insert appropriate position title to which you are responding), **Box 1651S, Department of Biological Sciences, Southern Illinois University, Edwardsville, IL 62026**. Review of applications will begin Jan. 15, 1999, and continue until position is filled. SIUE is a comprehensive regional university located in the St. Louis Metropolitan Region, and is dedicated to excellence in undergraduate education. *SIUE is an Affirmative Action Employer.*



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Under new leadership, **The Department of Pharmacology and Toxicology at The University of Texas Medical Branch at Galveston (UTMB)** will experience dynamic growth and development. We seek applications for the following three tenure-track positions:

**ASSISTANT PROFESSOR &
ASSOCIATE PROFESSOR
Molecular Toxicology**

All positions require a doctoral degree, at least two years of completed postdoctoral training, and experience in grant writing and obtaining research funding. The Associate Professor candidates should have demonstrated sustained funding including major extramural support.

The successful candidates will be expected to develop and sustain strong and independent extramurally-funded research programs and to contribute to the medical and graduate teaching missions of the department. Research areas of special interest include but are not limited to: structure, mechanisms, or regulation of biotransformation enzymes; effects of toxicants on cellular signaling pathways; neurotoxicology; chemical mechanisms of toxicity or carcinogenesis. Individuals with demonstrated productivity utilizing molecular, cellular, or genetic approaches to elucidate mechanisms of toxicant action are especially encouraged to apply. For one of the positions, a strong background in synthetic chemistry is highly desirable.

In addition, attractive opportunities exist for new faculty development through participation in an NIEHS-funded Center in Environmental Health Sciences, an Environmental Toxicology Training Grant, and the Centennial Center for Toxicology. Centers of Excellence in Structural Biology, Molecular Sciences, and Oncology and Hematology provide additional collaborations to enhance individual research efforts.

UTMB offers competitive salaries and start-up packages. Review of applications will begin on November 15, 1998 and will continue until all positions are filled. All applications should contain the following materials: current curriculum vitae and list of publications, concise statement (less than 3 pages) of research accomplishments and future plans, names and addresses of three references. Please submit to: **Dr. James Halpert, Professor and Chairman, Department of Pharmacology and Toxicology, The University of Texas Medical Branch, Galveston, Texas 77555-1031**. UTMB is an EO/AA Employer, M/F/D/V.

UTMB

**The University of Texas
Medical Branch at Galveston**

CELLULAR & MOLECULAR CANCER RESEARCH

The College of Medicine and the H. Lee Moffitt Cancer Center & Research Institute at the University of South Florida are seeking applications for Assistant, Associate and Full Professor Level individuals to participate in the Cancer Center Research Programs under a stimulating academic environment that includes excellent laboratory and clinical facilities. Applicants must have a demonstrated track record in cancer research preferably related to one or more of the Cancer Center's established programs. Research programs include:

- Immunology
- Cancer Genetics
- Molecular Oncology
- Cancer Cell Biology
- Drug Discovery

Successful individuals must hold a M.D. or Ph.D. degree with a minimum of 2-4 years post-doctoral training. Individuals at the rank of Associate Professor must have a demonstrated potential of extramural funding and at least 5 years of active and sustained participation as an Assistant Professor. Individuals for Full Professor must have a proven track record of independent research, leadership ability and training experience as evidenced by publications and extramural funding as well as 5 years of active and sustained participation as an Associate Professor. Academic rank and salary will be commensurate with experience and qualifications. These positions will be assigned to specific, mutually agreed upon departments within the College of Medicine with the possibility of tenure.

Send current curriculum vitae and a brief statement of major academic interest to W. J. Pledger, Ph.D., Associate Center Director for Basic Research, H. Lee Moffitt Cancer Center & Research Institute, 12902 Magnolia Drive, Tampa, Florida 33612. Applications must be postmarked by the deadline of December 15, 1998.

The H. Lee Moffitt Cancer Center & Research Institute is a free-standing, newly designated NCI Cancer Center located adjacent to the Health Sciences Center on the Tampa campus of the University of South Florida. In addition to a 162-bed full service cancer treatment facility, the Center has a research laboratory space in four buildings including over 120,000 square feet of dedicated laboratory and support space in a new Cancer Research Center.



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a minimum of five working days in advance. TDD# (813) 974-2218

ASSISTANT PROFESSOR DEPARTMENT OF BIOLOGICAL SCIENCES UNIVERSITY OF SOUTHERN CALIFORNIA

The Neurobiology Section of the Department of Biological Sciences at the University of Southern California (USC) at Los Angeles invites applications for a tenure-track position at the Assistant Professor level. Preference will be given to outstanding individuals who use cellular neurophysiological techniques to address fundamental questions and whose interests complement those of investigators in the Program in Neural, Informational and Behavioral Sciences (NIBS). Attractive facilities and start-up package are available. The NIBS Program has a strong base of scientists studying problems of synaptic plasticity, learning, and memory. Applicants should send a curriculum vitae, statement of research plans, and three letters of recommendation by January 31, 1999, to:

Michel Baudry, Ph.D., Professor
University of Southern California
Hedco Neurosciences Building 309
Los Angeles, CA 90089-2520

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The University of Illinois at Urbana-Champaign School of Molecular & Cellular Biology Two Positions, Rank Open, in Cell Biology or Developmental Biology

The School of Molecular and Cellular Biology at the University of Illinois at Urbana-Champaign invites scientists with interests in Cell Biology and/or Developmental Biology to apply for faculty positions in the School. These positions are full-time and, depending on qualifications, may involve appointment at the Assistant, Associate, or Full Professor level. The starting date for both positions is August 1999. Appointment at the Assistant Professor level requires a doctoral degree, postdoctoral experience, and evidence of outstanding research potential. Appointees at this level will be expected to develop a vigorous, independently funded research program. Appointment at higher levels requires evidence of outstanding research accomplishments including extramural funding and national recognition. Applicants at all levels will be expected to contribute effectively to undergraduate/graduate teaching. **Laboratory facilities, substantial start-up funds, and a salary commensurate with experience will be provided.** The University of Illinois at Urbana-Champaign offers highly interactive, interdisciplinary research environment and state-of-the-art research support facilities. The University is committed to significant future growth in the biological sciences. Urbana-Champaign offers the residential advantages of a medium-sized university city, excellent cultural opportunities, and easy access to Chicago and St. Louis. Information concerning the University can be found at <http://www.uiuc.edu/>. Applicants should submit a curriculum vitae with a complete list of publications, a summary of research interests and future plans, and arrange to have four letters of reference sent to: **Cell and Developmental Biology Search, School of Molecular and Cellular Biology, University of Illinois at Urbana-Champaign, 393 Morrill Hall, 505 S. Goodwin Ave., Urbana, IL 61801.**

To ensure full considerations, applications should be received by Nov. 15, 1998. Interviews may be conducted before the closing date but no final decisions will be made before that time.

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An applicant must:

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- Have a minimum cumulative GPA of 3.3 (4.0 point scale)

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- 12 Fellowships Annually
- Fellowship Stipends up to \$30,000
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- Support for 12-24 months

An applicant must:

- Be enrolled full-time in a Ph.D. or equivalent doctoral program in a biomedical life or physical science
- Be within 2 years of completing dissertation research

POSTDOCTORAL

SCIENCE RESEARCH
FELLOWSHIPS

- 10 Fellowships Annually
- Fellowship Stipends up to \$40,000
- Department Grants of \$15,000
- Support for 12-24 months

An applicant must:

- Hold a Ph.D. or equivalent degree in a biomedical life or physical science
- Be appointed as a postdoctoral fellow during the 1999 calendar year at an academic or non-academic research institution (private industrial laboratories are excluded)

Applicants must be African American (Black, non-Hispanic), U.S. citizens or permanent residents and at an institution in the U.S.A. Applications must be postmarked by January 15, 1999

For application forms and more information, please contact your department chairperson or Jerry L. Bryant, Ph.D., by mail at *The College Fund/UNCF*, 8260 Willow Oaks Corporate Drive, P.O. Box 10444, Fairfax, VA 22031-4511, by fax (703) 205-3574, or by E-mail: uncfmerck@uncf.org

Visit our web site: www.uncf.org

POSTDOCTORAL FELLOWSHIPS

Yoh Scientific has three contract Postdoctoral Fellowship openings at Zeneca Pharmaceuticals, a worldwide leader in the discovery, development, and marketing of innovative drugs, located in their U.S. research facility in suburban Wilmington, Delaware. The Target Discovery Department is seeking highly motivated scientists to join a group of investigators to help identify and characterize novel biological molecules for therapeutic intervention. Areas of research include (but are not limited to) leukocyte biology, pulmonary disease, ion channels, cancer, and bioinformatic datamining. Strong background in genomics, bioinformatics, molecular and/or cell biology tools is required. In addition, expertise in primary cell culture, viral-mediated gene delivery, and data visualization is preferred. Proven ability to work independently and strong written and oral communication skills are necessary. Ph.D. in biological sciences or related area required. Fellowships are for 2-3 years. Yoh Scientific offers excellent salaries and a comprehensive benefit package, including direct deposit, 401(k) and medical insurance options.

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E-mail: scott.morgan@phwilm.zeneca.com
or fax to (302)886-4180

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Meharry Medical College School of Medicine

**Research Centers in Minority Institutions (RCMI) and the
Department of Biochemistry**

A FACULTY POSITION is available in 1998/1999 at the Assistant Professor or Associate Professor levels in the area of Cell Signaling, which has been targeted for expansion at the College. Initial funding for these positions is provided by an NIH-funded RCMI program at the College and support from the School of Medicine.

Recruitment of one individual is expected, to join investigators studying cell signaling at the institution. **We are seeking a scientist who merits primary appointment in the department of biochemistry.** Joint appointments in clinical or other basic science department may be possible. Preference will be given to an applicant who has an interest that complements one of our clinical science departments. Selected individuals must have potential or demonstrated competence in the use of molecular biological or biophysical approaches to conducting research in cellular signaling and must also be capable of, and committed to making significant contributions to the teaching and administrative functions of the department. Successful applicant will be expected to develop/maintain a funded research program of high quality and to substantially participate in the graduate and professional (medical, dental, and applied health) school teaching programs of the department of biochemistry or other appointing department. He or she will also be required to participate in the further development of molecular neuroscience at the College. Applicants should send curriculum vitae, a statement on teaching interests, names of four individuals who may be contacted for reference, and a summary (not exceeding four pages) of potential research project(s) to either: **Samuel E. Adunyah, Ph.D., Chairman of Biochemistry**, or **George Hill, Ph.D., RCMI Program Director**, and Vice President for Research, (both at) Meharry Medical College, 1005 D.B. Todd Blvd., Nashville, TN 37208. Applications will be evaluated by the search committee appropriate for the targeted area of cell signaling as well as by the Biochemistry Department.

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SCIENTISTS

As members of an analytical research group, responsibilities for these positions will include researching and contributing to method development and validation performance and performing sample preparation, analysis, data reduction and reporting of results. We will also rely on you to recommend experimental protocols for new entities.

Both roles require a BS in Chemistry (or Biochemistry/Electrochemistry) with 10+ years experience in industrial analytical chemistry, or an MS with 6-8 years experience. Technical skill and/or knowledge in the following are required: operation and maintenance of analytical instrumentation (UV, HPLC, GC, DSC, IR and TGA), analytical methods validation, and effective presentation of analytical data. Must have knowledge of GLP and cGMP practices and experience with relevant computer software, including word processing. The chosen candidates will be quick learners with strong writing and communication skills.

Staff Scientist

In this leadership role, you will perform tests involved in the receipt and release of raw materials and protein analytes, including activity measurements, size exclusion analysis and design of control systems. You will also supervise chemists and promote communication and collaboration. In addition to those detailed above, required skills include the identification and analysis of protein analytes and application of chromatography science/techniques. A PhD with 2+ years experience is preferred, as is 5+ years in the pharmaceutical industry. Job Code: 98-45

Scientist IV

In addition to the responsibilities detailed above, you will perform tests involved in the release of product and complete documentation thereof. You will participate in the testing of proteins, sensors and autosensors and provide project teams with advice and support. Must have skill in the application of electrochemical techniques. Five years experience in the device industry is preferred. Job Code: 98-44

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Interested individuals should send their résumés to:

Joseph V. Hughes, Ph.D.

**Associate Director, Translational Research Program
Institute for Human Gene Therapy
Maloney M630, 36th & Spruce Streets
Philadelphia, PA 19104-4283**

Fax: (215) 614-0097

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CHAIRPERSON BIOLOGICAL SCIENCES

The Dyson College of Arts and Sciences

The Dyson College of Arts and Sciences at Pace University invites applications for the position of Chairperson of the Department of Biological Sciences. The College is seeking a dynamic teacher-scholar with a record of leadership and administrative accomplishments. The successful candidate will be expected to teach, direct research and head the department at the University's Pleasantville campus in Westchester County, NY, but will also have responsibility for providing leadership and direction for the discipline at the New York City campus.

The University offers an undergraduate program in biology and an interdisciplinary graduate program (M.S.) in environmental science. A Ph.D. in the biological sciences is required. The specialization is open; however, a specialization in environmental science and ecology or cell and molecular biology is preferred. Rank and salary are dependent on qualifications.

Applicants should send a curriculum vitae, statement of administrative philosophy and vision, and the names, addresses, telephone numbers, and e-mail addresses of four references to:
**Office of the Dean, The Dyson College of Arts and Sciences,
Pace University, 861 Bedford Road, Pleasantville, NY 10570.**

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**PACE
UNIVERSITY**

**TENURE TRACK POSITION IN THE
LABORATORY OF CHEMICAL PHYSICS AT THE
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND**

A tenure track position is available for a computational/theoretical biophysical scientist to establish an independent research program in the Laboratory of Chemical Physics, NIDDK, NIH. Research in this Laboratory is primarily concerned with problems in the structure, dynamics, and function of biological macromolecules. A variety of state-of-the-art techniques are currently employed in these investigations, including multi-dimensional nuclear magnetic resonance spectroscopy, Raman and infrared imaging spectroscopies, and time-resolved optical spectroscopy. There is also a major effort in theoretical studies to complement the experimental work.

The Laboratory is located on the main intramural campus of the NIH in Bethesda, Maryland, just outside Washington, D.C. The Senior Scientists in the Laboratory are: Philip A. Anfinrud, Ad Bax, G. Marius Clore, William A. Eaton, Angela M. Gronenborn, William A. Hagins, James Hofrichter, Ira W. Levin, Attila Szabo, Robert Tycko and Robert W. Zwanzig.

Interested applicants should send a Curriculum Vitae and list of publications, copies of selected publications, a summary of research accomplishments, a plan for future research, and three letters of reference to: Dr. Bernard R. Brooks, Chairman, Laboratory of Chemical Physics Search Committee, Building 5, Room B1-26, National Institutes of Health, Bethesda, MD 20892-0510. **Deadline for receipt of applications is December 1, 1998.**

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**Tenure-Track
Faculty Positions
Plant & Insect Molecular
Biology & Genetics
University of Maryland Biotechnology Institute**



The Center for Agricultural Biotechnology (CAB; <http://www.umbi.umd.edu/~index.html>) invites applications for two tenure-track faculty positions. The rank is open. CAB is one of four research centers of the University of Maryland Biotechnology Institute and is located on the campus of the University of Maryland, College Park, in a newly constructed and equipped research building. CAB's research emphasizes plant defense mechanisms, insect molecular genetics and evolution, poultry viruses and vaccines, and biochemical engineering. Positions will be available by fall 1999.

Within plant molecular biology and genetics, the area of basic research should address problems in biotechnology. Preferred research areas include i) the study of plant responses to pathogens and/or pests, ii) the effects of abiotic environmental stresses on plant health, or iii) other research areas that relate to improving plant productivity.

Within insect molecular biology and genetics, the area of basic research should address problems related to agriculture or human health. Examples of areas that would be considered include i) molecular genetics of disease vectors, ii) insect pathology, including virology, and iii) molecular genetics of fundamental physiological processes.

The applicant's research program must be sustainable in a competitive funding environment. The investigator is expected to build a dynamic research group within the setting of an interdisciplinary research institute. For full consideration, submit current curriculum vitae, selected reprints, summary of research interests, and letters from three recommenders by December 1, 1998, to:

**Faculty Search Committee
Center for Agricultural Biotechnology
University of Maryland Biotechnology Institute
Plant Sciences Building, Room 5115
College Park, MD 20742**

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Candidates will participate in technology development for high throughput screening of combinatorial and discrete compound libraries. Previous work with signal transduction pathway proteins, kinases, or cell-based assays is a plus. BS/MS degree or equivalent required. Experience in high throughput screening, assay automation, micro liquid handling, or low light imaging highly desirable. **Code: KO**

Research/Senior Research Scientist

The candidate we seek will have recognized biochemistry expertise with extensive experience in purification and characterization of enzymes and/or membrane proteins including hands-on experience in assay development. Our scientist will be capable of independently driving research projects to completion. To qualify, you must have a Phd with at least two years of post doctoral work or equivalent experience. A good working knowledge of basic cell culture and cell biology techniques is critical and experience with molecular biology techniques is desirable but not necessary. **Code: RJF-DS**

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We are currently seeking qualified individuals to fill a position as a Scientific Communications Writer within the Strategic Communications Group. Strategic Communications is responsible for global market development activities that support product introductions and life cycle optimization.

Scientific Communications Writers are responsible for communicating the findings of clinical and developmental research studies to the medical and scientific community. They write research and review articles for publication in the peer-reviewed literature and prepare slide and poster presentations for professional meetings. They also write product monographs, professional education materials, and product backgrounds for use by both the medical community and their colleagues within Allergan.

Scientific Communications Writers also develop and maintain scientific expertise in targeted therapeutic areas and function as important liaisons between scientific and marketing professionals within the organization.

The position requires an advanced degree in biological science or medicine (eg, PhD, PharmD, MD). Excellent written and oral communication skills and the ability to communicate technical material to both technical and nontechnical audiences are also required. The qualified candidate should demonstrate strong planning and organizational skills, high energy, and the ability to take initiative within a team framework.

With sales of approximately \$1.2 billion, Allergan is a technology-driven, global health care company focused on specialty pharmaceutical products that satisfy unmet medical needs and improve patients' lives. Allergan offers a competitive salary, excellent benefits, and a stimulating work environment.

For consideration, send your resume, two writing samples, and a cover letter describing your career objectives to: Kevin Burnett, Senior Manager, Strategic Communications, Allergan, 575 Anton Blvd., Suite 900, Costa Mesa, CA 92626.



Mirus Corporation, a leader in non-viral gene therapy technology, is seeking highly motivated individuals to become a part of its scientific team. Scientist (Ph.D. level) and technical specialist (B.S., M.S.) positions are available for creative individuals interested in non-viral vector development for gene therapy. Current research focuses on the use of viral paradigms for the creation of efficient non-viral, non-toxic, non-immunogenic, DNA delivery vectors.

Organic Chemistry:

Synthetic organic chemists (Ph.D. or equivalent) wanted for applied biomedical research. Primary responsibilities will include the synthesis of a variety of water soluble molecules for DNA delivery applications.

Biochemistry:

Scientist positions available for analytical biochemists with experience in various aspects of DNA condensation and complex formation facilitated by DNA-protein, DNA-polymer, and/or DNA-lipid interactions.

Cell Biology:

Ideal candidates will have a strong multidisciplinary background with expertise in cell biology, biochemistry, and molecular biology. Knowledge of endocytosis, viral assembly and disassembly models as well as experience with specific ligand-receptor interactions extremely helpful.

Molecular Biology:

Primary responsibilities will include both applied research and product development for new and existing products. The ideal candidate will have a Ph.D. and be highly proficient in all areas of molecular biology, have good communication skills, and be able to work closely with others in a small but focused research setting. Experience in tissue culture, gene delivery, *in situ* hybridization, and a strong working understanding of cell biology, gene expression, and antisense systems is desirable.

Interested individuals should send a statement of interest and curriculum vitae to **Mirus Corporation, Human Resources, 545 Science Drive, Madison, WI 53711** or send via e-mail to **employment@genetransfer.com**, FAX 608-233-3007.



N E X t r a n

RESEARCH OPPORTUNITIES

AN AFFILIATE OF BAXTER HEALTHCARE CORPORATION

NEXTRAN, an established leader in xenotransplantation research and affiliate of Baxter International, Inc., has several positions available at our Princeton, NJ location.

SCIENTIST Candidates for this position require a Ph.D. with a concentration in Virology, and 0-2 years of postdoctoral experience working with retroviruses. The incumbent will join a group in the process of characterizing Porcine Endogenous Retrovirus. Candidates should reference this position with code #10000.

RESEARCH ASSOCIATE Candidates for this position require 2 or more years of full-time research experience and should possess a broad background in bioanalytical techniques including SDS gel electrophoresis, HPLC, and ELISA. A B.S. in Biochemistry or related fields is required. The incumbent will join a Biochemistry group that targets the mechanism of xenograft rejection. Candidates should reference this position with code #10025.

RESEARCH ASSOCIATE Candidates with a B.S. degree with 1-2 years research experience in cell biology, immunology, or mammalian tissue culture and cell separation methodologies required. The incumbent will join an Immunology group that investigates the mechanism of delayed xenograft rejection. Candidates should reference this position with code #10050.

NEXTRAN offers an excellent working environment along with competitive compensation and benefits. Please submit your résumé, indicating the position you are applying for, and your salary requirements to the **Human Resources Manager**:

NEXTRAN
303B College Road East
Princeton, NJ 08540

The University of Illinois at Urbana-Champaign School of Molecular & Cellular Biology Faculty Position, Rank Open, in Immunology/Host Response to Bacterial Pathogens

The School of Molecular and Cellular Biology at the University of Illinois at Urbana-Champaign invites scientists with interests in Immunology relevant to Bacterial Pathogenesis to apply for a faculty position in the School. This position is full-time and, depending on qualifications, may involve appointment at the Assistant, Associate, or Full Professor level. The starting date for the position is August 1999. Appointment at the Assistant Professor level requires a doctoral degree, postdoctoral experience, and evidence of outstanding research potential. Appointees at this level will be expected to develop a vigorous, independently funded research program. Appointment at higher levels requires evidence of outstanding research accomplishments including extramural funding and national recognition. Applicants at all levels will be expected to teach an undergraduate course in Immunology. Laboratory facilities, substantial start-up funds, and a salary commensurate with experience will be provided. The University of Illinois at Urbana-Champaign offers highly interactive and interdisciplinary research environment plus state-of-the-art research support facilities. The School of Molecular and Cellular Biology includes the Department of Microbiology, which has particular strengths in the physiology, genetics, and pathogenesis of bacteria. The University is committed to significant future growth in the biological sciences. Urbana-Champaign offers the residential advantages of a medium-sized university city, excellent cultural opportunities, and easy access to Chicago and St. Louis. Information concerning the University can be found at <http://www.uiuc.edu/>. Applicants should submit a curriculum vitae with a complete list of publications, summary of research interests and future plans, and arrange four letters of reference sent to:

Immunology Search
School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
393 Morrill Hall
505 S. Goodwin Avenue
Urbana, IL 61801

To ensure full considerations, applications should be received by **December 15, 1998**. Interviews may be conducted before the closing date but no final decisions will be made before that time.

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Nature Biotechnology, based in New York City, seeks a senior research editor. Applicant should have a PhD, postdoctoral experience in either an industrial or an academic laboratory, a distinguished publication record in peer-reviewed journals, a keen critical and analytic sensibility, excellent writing and editing skills, and an appreciation of the history and evolution of molecular biology into biotechnology.

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Please send a descriptive cover letter (including salary requirements), curricula vitae, and references to: The Editor, *Nature Biotechnology*, 345 Park Avenue South, New York NY 10010-1707. Deadline for submissions is October 16. (Fax 212 696 9006; e-mail biotech@natureny.com).



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RESEARCH IN JAPAN

To promote cooperation in biomedical and behavioral research between the United States and Japan, the Japan Society for the Promotion of Science (JSPS) offers flexible opportunities for American scientists to pursue collaborative research in Japanese universities and other eligible research institutions.

Through arrangements with the Fogarty International Center (FIC) of the National Institutes of Health (NIH), the JSPS will award **short-term fellowships** for collaborative research in two categories:

- 1) Short-term Fellowships for **senior scientists** for periods ranging from **seven to sixty days**. Applications will also be considered from pre-doctoral and post-doctoral level researchers with exceptional promise.
- 2) Short-term **Postdoctoral** Fellowships for periods ranging from **three to eleven months**. The American scientist must have received the doctoral degree within ten years prior to April 1, 1999.

Application deadline is January 15, 1999

Recipients must arrive in their host laboratories by March 31, 2000.

Detailed application information and guidelines for these short-term fellowships and information on other Japan fellowship programs may be obtained from the Fogarty International Center web site at: www.nih.gov/fic/opportunities/ff.html#japan

Those without web access or needing clarification should contact The JSPS Program Officer by email at jsps@nih.gov

JSPS Program
Division - International Training and Research
Fogarty International Center
National Institutes of Health
Building 31, Room B2C39
31 Center Drive, MSC 2220
Bethesda, MD 20892-2220
Tel: 301-496-1653
Fax: 301-402-0772
jsps@nih.gov

POSITIONS OPEN

FACULTY POSITIONS

The Faculty of Environmental and Forest Biology, a diverse faculty ranging from Molecular Biologists to Ecosystem Scientists, is seeking three **ASSISTANT PROFESSORS** to fill academic year, tenure-track positions at the SUNY College of Environmental Science and Forestry. Candidates are expected to establish vigorous research programs, teach at graduate and undergraduate levels, and contribute to public service activities of the College.

The **VERTEBRATE WILDLIFE ECOLOGIST** will apply wildlife science toward the stewardship of vertebrate wildlife and interact with state, national, and international organizations concerned with wildlife management. Potential teaching opportunities include wildlife management, ecology, and areas of specialty.

The **PLANT DEVELOPMENTAL BIOLOGIST** will use modern approaches to fundamental problems in plant developmental biology. Potential teaching opportunities include developmental biology, plant anatomy, molecular aspects of plant growth and development, mycorrhizae and/or root biology, microtechnique, and plant-herbivore interactions.

The **AQUATIC ECOLOGIST** will investigate basic and applied problems using experimental and quantitative approaches, with emphasis on freshwater invertebrates. Potential teaching opportunities include limnology, aquatic entomology, and stream ecology.

Requirements for all positions include a Ph.D. in appropriate field and postdoctoral experience; teaching experience is preferred. Applicants should send to the appropriate Search Chair hard copies of curriculum vitae, graduate transcripts, separate statements of research and teaching interests, reprints of relevant publications, and request three letters of recommendation (FAX acceptable). All application materials must arrive by November 16, 1998.

Search Chairs: **Dr. Guy Baldassarre** (Vertebrate Wildlife Ecologist), Telephone: 315-470-6739; e-mail: gabaldas@mailbox.syr.edu; or **Dr. Scott Rogers** (Plant Developmental Biologist), Telephone: 315-470-6935; e-mail: sorogers@syr.edu; or **Dr. Donald Stewart** (Aquatic Ecologist), Telephone: 315-470-6924; e-mail: djstewart@mailbox.syr.edu. SUNY College of Environmental Science and Forestry, 1 Forestry Drive, Syracuse, NY 13210. Website: www.esf.edu.

SUNY-ESF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are strongly encouraged to apply.

FACULTY POSITIONS

The University of Pittsburgh School of Medicine invites applications for tenure-track positions at the **ASSISTANT/ASSOCIATE PROFESSOR** level. We seek individuals trained in the techniques of cell and molecular biology whose research interests encompass one of the following: (a) cell signaling processes derived from extracellular matrix or cell-cell interactions; relation to cell differentiation, polarization, tumorigenesis; (b) epithelial ion channel regulation; (c) regulation of membrane traffic, protein targeting; (d) ABC transporters; relation to diabetes, tumorigenesis. Space and start-up funds will be provided by the Department of Cell Biology and Physiology.

Applicants should have a Ph.D. and/or M.D. degree and postdoctoral experience. Send curriculum vitae, summary of research interests, and names of three references to: **Raymond A. Frizzell, Ph.D., c/o Wendy Bell, Department of Cell Biology and Physiology, University of Pittsburgh School of Medicine, S367 Biomedical Science Tower, 3500 Terrace Street, Pittsburgh, PA 15261.** The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS VISION RESEARCH

Saint Louis University, an institution in the Catholic Jesuit tradition dedicated to education, research, and healthcare, is seeking applicants for tenure-track faculty positions at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. Preference will be given to individuals with expertise and a strong publication record in molecular biology/genetics, cell biology, or physiology. Current federal grant support and academic experience are desirable. Send curriculum vitae, brief statement of research interests to: **Steven J. Fliesler, Ph.D., Faculty Search Committee Chair, Saint Louis University Eye Institute, Saint Louis University School of Medicine, 1755 South Grand Boulevard, St. Louis, MO 63104-1540.** E-mail: fliesler@sul.edu. Saint Louis University is an Affirmative Action/Equal Opportunity Employer, and encourages nominations of and applications of women and minorities.

POSITIONS OPEN

FACULTY POSITION IN HEMATOLOGY STANFORD UNIVERSITY SCHOOL OF MEDICINE

The Division of Hematology invites applications from candidates who are either M.D. or M.D.-Ph.D. for a faculty position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. Candidates should have independent funding and an outstanding record of productivity in either (a) vascular biology-thrombosis, cellular inflammation, angiogenesis; or (b) leukemia research-oncogenes, stem cell biology, lineage determination. The amount of clinical responsibility is negotiable. Newly renovated laboratory and office space will be provided, as well as generous start-up support. This position is in the tenure-track Professoriate. The successful candidate will participate in the Program of Molecular and Genetic Medicine at Stanford.

Applicants should send a curriculum vitae, statement of research interests, and the names and addresses of three references, to: **Lawrence Leung, M.D., Chief, Division of Hematology, Room S161, Stanford University School of Medicine, 300 Pasteur Drive, Stanford, CA 94305-5112.** Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates.

FACULTY POSITION KANSAS STATE UNIVERSITY

The Department of Anatomy and Physiology in the College of Veterinary Medicine invites applications from individuals who are using contemporary approaches to study regulatory mechanism involved in cardiovascular physiology. The position is a tenure-track faculty position at the **ASSISTANT/ASSOCIATE PROFESSOR** level (70 percent research, 30 percent teaching). The successful candidate will have an extramurally funded research program (Associate Professor) or have an established research program with considerable potential for securing funding (Assistant Professor). The appointee will be expected to contribute to a team-taught comparative microanatomy course for veterinary students and to develop a graduate-level course related to their research interests. The position is available August 1, 1999. D.V.M. and/or Ph.D. required.

Applications should include a curriculum vitae, a statement of research and teaching interest, names and addresses of three references, and reprints of three representative publications. Applications will be received until December 1, 1998. Send applications to: **Dr. Jon D. Dunn, Professor and Department Head, Department of Anatomy and Physiology, VMS 228, Kansas State University, 1600 Denison Avenue, Manhattan, KS 66506-5602.** KSU is an Equal Opportunity Employer/Affirmative Action.

FACULTY POSITION IN BIOLOGY

The Biology Program of Claremont McKenna, Pitzer, and Scripps Colleges of The Claremont Colleges (see website: www.jsd.claremont.edu) seeks a broadly trained **ORGANISMAL BIOLOGIST** to fill a tenure-track position at the **ASSISTANT PROFESSOR** or more advanced level to begin September 1999. Preference given to candidates with interests in the physiology or anatomy of animals or plant physiology. Teaching responsibilities will include introductory biology and a laboratory course in the area of specialization. Interest in developing courses for non-science majors is desirable. Supervision of undergraduates in research is expected. A Ph.D. degree, prior teaching experience, and a record of scholarly publication are required.

Send a curriculum vitae, a statement of teaching interests and philosophy, and a statement of research interests to: **Dr. Newton Copp, W. M. Keck Science Center, 925 North Mills Avenue, Claremont, CA 91711.** E-mail: ncopp@jsd.claremont.edu. Arrange to have three letters of recommendation sent to the same address. Review of applications will begin November 30, 1998, and continue until the position is filled.

In a continuing effort to enrich its academic environment and provide Equal Educational and Employment Opportunities, The Claremont Colleges actively encourages applications from women and members of historically underrepresented social groups in higher education.

POSITIONS OPEN

FACULTY POSITION IN PETROLOGY THE UNIVERSITY OF WESTERN ONTARIO

The Department of Earth Sciences, University of Western Ontario, invites applications for a tenured or tenure-track appointment (effective July 1, 1999) in either igneous or metamorphic petrology. Rank and salary for the position will be commensurate with qualifications and experience. The successful applicant must develop a vigorous research program in his/her specialty and collaborate with other faculty members who have related research interests. Applicants must be prepared to supervise graduate students at the M.S. and Ph.D. levels and to teach broadly based as well as specialized courses in petrology and mineralogy, both at the undergraduate and graduate levels.

The Department of Earth Sciences has 18 full-time faculty members, 11 support staff, about 40 graduate students, and several Postdoctoral Fellows, Research Associates, and Instructors. The Department offers undergraduate and graduate programs in geology, geophysics, and environmental earth science. A wide array of modern research facilities is available within the Department and the University. A comprehensive overview of the Department is available from our website: <http://www.uwo.ca/earth/es4.html>.

Applicants should hold the Ph.D. degree or equivalent from a recognized university and write to: **Professor L. Mansinha, Acting Chair, Department of Earth Sciences, University of Western Ontario, London, Ontario N6A 5B7 Canada.** A complete application includes a covering letter, a full curriculum vitae, the names, mail, e-mail addresses, and telephone/FAX numbers of at least three referees, and a statement, not to exceed 500 words, explaining how background, experience, and research accomplishments qualify you for this position. Review of applications will commence on January 11, 1999.

Positions are subject to budget approval. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. The University of Western Ontario is committed to Employment Equity, welcomes diversity in the workplace, and encourages applications from all qualified individuals including women, members of visible minorities, aboriginal persons, and persons with disability.

FACULTY POSITION IN GENETICS

Washington and Lee University announces a tenure-track position in the Department of Biology to be filled at the **ASSISTANT PROFESSOR** level by an individual with expertise in molecular genetics. The successful candidate will have a strong commitment to undergraduate teaching, and develop an independent research program (and seek extramural grant support) in her/his area of specialization. Completion of the Ph.D. is required; postdoctoral research experience is desirable. Starting date is July 1, 1999. We anticipate that by the fall of 1999 the Department of Biology will consist of eight Ph.D. faculty and four support personnel, including a full-time Research Technician for molecular biology. A current description of the Department is available on the website: <http://www.wlu.edu/~biology/biolindex.htm>. Applicants must submit (1) letter of application, including statement of research and teaching interests, (2) curriculum vitae, and (3) names and addresses of at least three references, by November 27, 1998, to: **Dr. L. E. Hurd, Department of Biology, Washington and Lee University, Lexington, VA 24450.** Washington and Lee University is an Equal Opportunity/Affirmative Action Employer.

CHAIR, DEPARTMENT OF CHEMISTRY UNIVERSITY OF MISSOURI-ROLLA

Applications and nominations are sought for the position of Chair and Professor of the Chemistry Department at the University of Missouri-Rolla. We are seeking candidates with an international research reputation; a commitment to excellence in undergraduate teaching, graduate teaching, and research; and the promise of progressive leadership. The Department has 20 tenure-track faculty (including three Curators' Professors), 71 graduate students, and 50 undergraduate majors. Preferred starting date is September 1, 1999. The committee will begin review of applications on December 1, 1998; applications will be accepted until January 31, 1999. Send letter of application with a complete curriculum vitae and three letters of reference to: **Human Resource Services, Reference Number R52863, University of Missouri-Rolla, 1201 North Bishop, 1870 Miner Circle, Rolla, MO 65409-1050.** UMR is an Affirmative Action/Equal Employment Opportunity Employer. Females, minorities, and persons with disability are encouraged to apply.

Appalachian STATE UNIVERSITY

CHAIRPERSON DEPARTMENT OF BIOLOGY

The College of Arts and Sciences at Appalachian State University invites applications for the position of Chairperson of the Department of Biology. The position will be available beginning July 1, 1999. The successful candidate will have both administrative and academic responsibilities and will assume leadership of a department with 21 full-time faculty, 640 undergraduate and 25 graduate majors. Salary is competitive and commensurate with experience and qualifications; areas of specialization are open.

Qualifications include:

- an earned doctorate in an appropriate discipline
- professional development appropriate for associate or professor rank
- demonstrated academic administrative ability and effectiveness
- a distinguished record of effective teaching, research, and professional service that is consistent with the mission of the university and department
- commitment to obtain external support
- the ability to work effectively with colleagues in a variety of disciplines
- strong interpersonal skills

Appalachian State University, a member of The University of North Carolina System, is a comprehensive university located in the heart of the Blue Ridge Mountains, with an enrollment of over 12,000 students. The faculty has as its mission the practice and propagation of scholarship, accomplished through instruction, research, and service activities as they relate to both undergraduate and graduate education. The Department of Biology offers B.A./B.S. and M.A./M.S. degrees.

To apply, send a letter of application, current vitae, statement of professional goals, and the names, addresses, and telephone numbers of three or more references. Completed applications must be received by 5:00 pm, December 2, 1998. Send to: **Dr. Dru A. Henson, Chairperson, Biology Search, c/o Office of the Dean, College of Arts and Sciences, P.O. Box 32021, Appalachian State University, Boone, NC 28608, e-mail: hensonada@appstate.edu, url: <http://www.biology.appstate.edu>**

Appalachian State University is an Equal Opportunity Employer.

CHAIR

Department of Biological Sciences University of Nevada, Las Vegas

The University of Nevada, Las Vegas (UNLV) invites applications and nominations for the position of **PROFESSOR** and **CHAIR** of the Department of Biological Sciences. The Department is seeking a dynamic leader with proven administrative abilities, a distinguished record of research productivity and extramural support, demonstrated excellence in teaching, and a commitment to undergraduate and graduate education. Candidates in all areas of biology are encouraged to apply. The Chair will lead a growing department of 25 full-time faculty, representing a wide range of specialties. The Department currently has over 500 undergraduate majors and over 60 full-time graduate students (Master's and Ph.D.).

We are seeking an individual with a demonstrated ability to collaborate with faculty and colleagues with diverse interests, mentor undergraduate and graduate students, and work well with other chairs and administrators. In addition, the successful candidate will have a strong commitment to strengthening and expanding existing areas of teaching and research excellence across the full spectrum of biological sciences, and developing interdisciplinary research and instructional programs. Specific information concerning faculty research interests, course offerings, graduate programs, and facilities is available at our department website: <http://www.unlv.edu/Colleges/Sciences/Biology/>.

Applicants should submit a detailed curriculum vitae; a statement that addresses administrative philosophy, research goals, and teaching interests; and the names and addresses (including e-mail) of five references to: **Dr. Dawn Neuman, Acting Chair, Department of Biological Sciences; University of Nevada, Las Vegas; Las Vegas, NV 89154-4004.** Review of completed applications will begin November 9, 1998. The position will remain open until filled. Salary is commensurate with qualifications and experience. The University has an excellent fringe benefits package. Position is contingent upon funding. Inquiries can be directed to the Chair of the search committee: **Dr. Stanley D. Smith; Department of Biological Sciences; University of Nevada, Las Vegas at 702-895-3197 or ssmith@ccmail.nevada.edu.**

Additional information on the University of Nevada, Las Vegas can be reviewed at our website: <http://www.unlv.edu>. UNLV is an Affirmative Action/Equal Opportunity Employer. Minorities, Women, Veterans, and the Disabled are encouraged to apply.



Molecumetics Ltd. is located in Bellevue, WA and is an emerging drug discovery company focusing on the synthesis of orally active compounds for the treatment of cardiovascular, inflammatory and metastatic diseases. We are currently seeking qualified applicants for the following positions:

Senior Scientist, Biology - Ph.D.

Minimum of three years' postdoctoral experience with strong background in molecular biology and signal transduction. Experience in development of high throughput screening using cell-based assays is preferable. Qualified individuals will work within the discovery biology group designing and implementing primary and secondary molecular and biochemical assay systems to discover and analyze potential drug candidates. Refer to Job No. 1008SS-BI/S.

Bioinformatics - Ph.D./M.S.

Degree in medical/biological sciences. Extensive research experience in using bioinformatics tools and public databases is essential. You will integrate multiple sources of information (medical literature, external databases, bioinformatics tools, homology models and small molecule proprietary databases) to assist a multidisciplinary team in drug discovery and target identification/validation. Must have knowledge of medical/biochemical gene pathways and functions and an extensive understanding of programming and sequence analysis concepts. Must be a team player and have excellent communication skills. Refer to Job No. 1007MS-BI/S.

Research Associate - M.S./B.S.

Tissue culture/assay development. Join a growing drug discovery effort in molecular pharmacology assay development. In support of drug discovery programs, the successful candidate will develop and validate cell-based functional assays and maintain transformed cell lines. Requires BS/MS degree in microbiology, cell biology, molecular biology, pharmacology or a related field; computer proficiency; effective communication; strong team participation; and excellent sterile tissue culture techniques. Molecular biology experience an asset. Refer to Job No. 1006TC/S.

Immediate eligibility to work in the US required for any position. Refer to job number and forward resume to: **Administrator, Molecumetics, 2023 120th Ave. NE, Bellevue, WA 98005 or mcwhisk@molecumetics.com** An equal opportunity employer m/f/d/v.

POSITIONS OPEN

FACULTY POSITIONS IN SCIENCE EDUCATION THE UNIVERSITY OF ARIZONA College of Science

Several **TENURE-TRACK** faculty openings are available to develop a new program to prepare secondary-school Science Teachers and to take continuing leadership roles in science-education scholarship within the science departments. Candidates are sought with scholarly expertise pertinent to the preparation of Science Teachers and other issues of precollege education, practical experience teaching in secondary science classrooms, and substantial research experience in a scientific discipline. Appointments will be made within individual science departments spanning the physical and biological sciences. Rank and tenure status will depend upon qualifications. Ph.D. in science or related field, or Ph.D. in science education with strong science background are required. Candidates with experience in some or all of the following are particularly encouraged to apply: experience in secondary-school teacher education, including ability to model good teaching; teaching experience at the secondary-school level with demonstrated leadership experience in that setting; research and scholarly experience in teaching and learning subject matter. Submit full curriculum vitae, summary of scholarly and educational interests, description of how applicant's background qualifies him/her for this program, and three letters of reference sent directly by the writers to: **Professor Richard Greenberg, Chair, Teacher Preparation Search Committee, Lunar and Planetary Laboratory, The University of Arizona, Tucson, AZ 85721**. For full consideration, applications must be received by January 15, 1999. Application review begins that day and will continue until one or more positions are filled. *The University of Arizona is an Equal Employment Opportunity/Affirmative Action Employer. Minorities/Women/Disabled/Veterans.*

FACULTY POSITION DEPARTMENT OF MOLECULAR BIOLOGY MASSACHUSETTS GENERAL HOSPITAL Department of Genetics Harvard Medical School

The Department of Molecular Biology at Massachusetts General Hospital and the Department of Genetics at Harvard Medical School invite applications at the level of **ASSISTANT/ASSOCIATE PROFESSOR** for a position to begin September 1999. We are seeking applicants working in any field of genetics, molecular biology, and/or biochemistry. The laboratory will be located in the Massachusetts General Hospital Department of Molecular Biology and the faculty appointment will be in the Harvard Medical School Department of Genetics.

Applications should include a curriculum vitae, reprints of publications, a statement of research plans, and three letters of recommendation. This material should be sent by December 1, 1998, to: **Howard M. Goodman, Chief, Department of Molecular Biology, Wellman 11, Massachusetts General Hospital, Boston, MA 02114**.

Harvard University and the Massachusetts General Hospital are Equal Opportunity/Affirmative Action Employers. We encourage applications from women and minority groups.

FACULTY POSITIONS STANFORD UNIVERSITY SCHOOL OF MEDICINE Department of Genetics

The Department of Genetics at the Stanford University School of Medicine is seeking qualified applicants for tenure-track positions at the **ASSISTANT PROFESSOR** level.

The Department is moving into newly renovated laboratories and has established programs in genetic studies of a wide variety of eukaryotic and prokaryotic organisms.

Candidates should have a strong record of research accomplishment in any field of genetics, and should expect to become involved in teaching human and/or general genetics to medical students and graduate students.

Candidates should send their curriculum vitae, bibliography, statement of research interests, and the names of three references to: **Dr. David Cox, Search Committee Chairman, c/o Louann Kosmerl, Department of Genetics, School of Medicine, Stanford University, Stanford, CA 94305-5120**.

Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates.

POSITIONS OPEN

Colorado State University

TWO FACULTY POSITIONS TENURE-TRACK ASSISTANT PROFESSORS

Animal development. We invite applications from Biologists using molecular approaches to animal development. A Ph.D. and postdoctoral experience are required.

Plant population biology. We invite applications from Biologists using modern approaches to study evolution in plant populations. A Ph.D. is required; postdoctoral experience preferred.

Successful candidates are expected to develop externally funded research programs and to participate in undergraduate and graduate education. For full consideration, send a letter describing teaching and research interests, curriculum vitae, letters from at least three references (sent separately), and up to three publications to: **Animal Development or Plant Population Biology Search Committee, Department of Biology, Colorado State University, Fort Collins, CO 80523** by 20 November 1998.

CSU is an Affirmative Action/Equal Opportunity Employer. Equal Opportunity Office, 101 Student Services.

THREE POSITIONS DEPARTMENT OF BIOLOGICAL SCIENCES HUMBOLDT STATE UNIVERSITY

TENURE-TRACK FACULTY POSITIONS starting August 1999. **Plant ecology:** Requires Ph.D. in biological sciences with an emphasis in plant ecology. Primary responsibilities will be to teach courses in plant ecology and plant taxonomy. **Animal/human physiology:** Requires Ph.D. in biological sciences with an emphasis in animal physiology; expertise in neurophysiology is preferred. Primary responsibilities will be to teach courses in vertebrate and human physiology. Life science education: Requires Ph.D. in biological sciences and teaching credential. Primary responsibilities will be to teach introductory biology and science education courses. All: Other duties will include advising undergraduate and Master's students and assisting as necessary in functioning of the department. Teaching promise must be demonstrated by evidence of prior teaching experience, at least at the Graduate Assistant level. Research is expected. Send résumé, three recent letters of recommendation, and complete academic transcripts (as well as requests for detailed position descriptions) to: **Plant Ecology Search Committee, Physiology Search Committee, or Science Education Search Committee, Department of Biological Sciences, Humboldt State University, Arcata, CA 95521-8299. Telephone: 707-826-3245; FAX: 707-826-3201; e-mail: turner@laurel.humboldt.edu**. Completed application materials must be postmarked by 1 December 1998. (plant ecology and physiology positions) or 4 January 1999 (life science education position). *Equal Opportunity/Affirmative Action Employer. Women, persons with disability, and minorities are encouraged to apply.*

NEUROSCIENTIST PSYCHIATRY RESEARCH

(98UC0970) The Psychiatry Department at the University of Cincinnati College of Medicine invites applications for a **TENURED** or **TENURE-TRACK FACULTY POSITION**. The successful applicant will join a multidisciplinary neuroscience group pursuing studies with applications to bipolar disorder, substance abuse, psychotic disorders, major depression, energy metabolism and obesity, dementia, and PTSD. Applicants with expertise in molecular genetics, neuroimaging, neuroendocrinology, or pharmacology are specifically being sought. Minimum requirements are Ph.D. and/or M.D., and demonstrated record of research excellence. The University of Cincinnati Psychiatry Department currently comprises 11 basic science laboratories, with close ties to an outstanding clinical and psychopharmaceutical research faculty. Benefits include a very competitive salary and a generous start-up package. Applicants should send curriculum vitae (noting control #), three letters of recommendation, and summary of research activities and interests to: **Neuroscientist Search Committee, c/o Paul E. Keck, Jr., M.D., Vice Chairman for Research, Department of Psychiatry, University of Cincinnati College of Medicine, P.O. Box 670559, Cincinnati, OH 45267-0559**. Résumés accepted until filled. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

TWO FACULTY POSITIONS IN STRUCTURAL BIOLOGY DEPARTMENT OF BIOLOGY Indiana University, Bloomington

The Department of Biology is seeking to hire two Structural Biologists, one at the **ASSISTANT PROFESSOR** level and one at the **FULL PROFESSOR** level. The latter will be appointed **GILL CHAIR OF BIOLOGY** and will enjoy the benefits of a large endowment income. The successful candidates will join a strong and growing group of Biochemists with structural interests—a group that includes members of both the Biology and Chemistry Departments. We welcome applications from candidates who apply physical methods to the study of any significant biochemical problem; we especially encourage applications from those who employ crystallographic or spectroscopic methods to determine macromolecular structures. Generous and competitive start-up packages will be provided to the successful candidates.

These positions are intended to form the core of a new group of Structural Biologists within the Department of Biology and, on the Bloomington campus, of an expanding group of Biologists and Chemists working at the interface between their disciplines. Thus, the Department of Chemistry will be hiring a Macromolecular Crystallographer this year, an additional, modern research building will soon be available, and the newly created Gill Center for Instrumentation Science is taking shape in association with the Department of Chemistry. Within the Department of Biology, recent hirings have significantly expanded our efforts in the areas of microbiology, biochemistry, cell and developmental biology, and evolutionary biology. One consequence of this expansion is that we welcome applications and inquiries from two-career couples, at any level, including those with partners in fields other than structural biology.

Junior candidates should send a curriculum vitae, a statement of research (past, present, and planned), and representative publications, and arrange to have four letters of recommendation to: **Dr. Peter Cherbass, Chair, Structural Biology Search Committee, Department of Biology, Indiana University, Bloomington, IN 47405. FAX: 812-855-6705; e-mail: cherbas@indiana.edu**. Senior candidates should send a letter of interest and curriculum vitae to the same address. Review of applications will begin December 1, 1998, and will continue until suitable candidates are identified.

For more information about our department, see our website: <http://www.bio.indiana.edu>. For information about the Chemistry Department, see their website: <http://www.chem.indiana.edu>. *Indiana University is an Affirmative Action/Equal Opportunity Employer. Women, minority candidates, and couples are encouraged to apply.*

FACULTY POSITION ASSISTANT PROFESSOR OF BIOLOGY

Baldwin-Wallace College invites applications for a full-time tenure-track position to begin in August 1999. The position is to teach microbiology and immunology for biology majors, and an introductory biology course for non-majors. All courses are at the undergraduate level. Candidates must have a Ph.D. Excellence in teaching, academic advising, and the ability to direct undergraduate research are essential. Baldwin-Wallace is a liberal arts-oriented college located in a suburb of Cleveland. See website: www.bw.edu. Please send a letter of application stating teaching experience and research interest, curriculum vitae, official transcripts, and three letters of recommendation by November 15, 1998, to: **Dr. Stephen D. Hilliard, Chairperson, Department of Biological Sciences, Baldwin-Wallace College, 275 Eastland Road, Berea, OH 44017-2088**. E-mail inquiries may be directed to e-mail: shilliar@bw.edu. *Minority and women candidates are especially urged to apply.*

Minot State University Department of Biology. Two tenure-track positions at the **ASSISTANT PROFESSOR** level. Successful applicants will join a small, energetic group of scientists. We are seeking a **MOLECULAR BIOLOGIST** and a **COMPARATIVE VERTEBRATE BIOLOGIST**. Responsibilities include teaching, research, and service. For additional information see website: <http://www.misu.nodak.edu/artsnsci/home.html>. Send letter of application, curriculum vitae, graduate transcripts, a statement of teaching philosophy, a summary of research goals, and three letters of reference. Send materials by December 15, 1998, to: **Search Committee Chair (specify position), Department of Biology, Minot State University, 500 University Avenue West, Minot, ND 58707. Equal Employment Opportunity.**

Science & Technology.

At Lilly, They Serve One Cause:

humanity

LC/MS DRUG METABOLISM SCIENTIST

The Department of Drug Disposition at Eli Lilly & Company has an opening for an analytical chemist with a background in protein characterization. The candidate will use LC/MS and MS/MS techniques to profile drugs and their biotransformation products in biological matrices. Both conventional organic molecules and therapeutic proteins will be studied in applications ranging from discovery research support to clinical metabolism associated with regulatory document submission. The successful candidate should have a B.S. or M.S. degree in chemistry or a related field as well as documented LC/MS experience. Experience with protein/peptide isolation and structural characterization is also essential. Excellent verbal and written communication skills are required as the candidate will collaborate with several program teams communicating results through various formats including peer reviewed reports.

Qualified individuals are encouraged to apply by sending resume and cover letter to: **Eli Lilly and Company, Chemistry Division, US Recruiting and Staffing, Lilly Corporate Center, Dept. Code ADSCICH17, Indianapolis, IN 46285.**

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

For more information on
Eli Lilly and Company,
please visit our website at:
www.lilly.com



Olin Endowed Chair in Bioengineering

Arizona State University (ASU) and the Harrington Arthritis Research Center (HARC) are seeking a distinguished, senior individual with an outstanding record of research and educational accomplishments to occupy the Olin Endowed Chair in Bioengineering at ASU. The individual selected will hold a joint appointment as a tenured faculty member in ASU's Bioengineering Program and will be appointed the Head of the Bioengineering Division of the Harrington Arthritis Research Center.

To qualify, applicants must have full professor rank; have an earned Ph.D. degree in Bioengineering or a field closely related to molecular, cell, or tissue bioengineering; have a record of significant archival journal publications in the areas of molecular, cell, or tissue engineering; a significant history of external funding for research; and significant experience in graduate education. Applicants must also be qualified to teach undergraduate and graduate courses in Molecular, Cell, and Tissue Engineering and have national prominence in Molecular, Cell, and Tissue Engineering. It is desired that the applicant also have prior experience in the administrative management of interdisciplinary research and experience in the successful transfer of research results to industry.

Applications must be received by January 15, 1999, or the first of each succeeding month until the position is filled. Candidates must send a formal application consisting of a letter expressing interest in the position; a current vitae; a summary of past activity and future plans for research, teaching, and service activities; and the names, addresses, and telephone numbers of 4 references to: **Dr. Eric J. Guilbeau, Chair of Search Committee for the Olin Endowed Chair, Department of Chemical, Bio and Materials Engineering, Arizona State University, Tempe, AZ 85287-6006.** For additional information contact **Dr. Eric J. Guilbeau** at (602) 965-3676 or via e-mail: eric.guilbeau@asu.edu.

ASU is an Equal Opportunity/Affirmative Action Employer.

AWARD



NIH Grants for International Biomedical and Behavioral Research

The Fogarty International Research Collaborative Award (FIRCA)

The Fogarty International Center (FIC) of the National Institutes of Health (NIH) announces enhancements to the existing FIRCA and AIDS-FIRCA programs.

These changes include increased funding levels and more flexible eligibility guidelines. They become effective when officially published in the NIH Guide. Advance notice of the changes may be obtained using the contact information below.

The Fogarty International Research Collaboration Award (FIRCA) facilitates collaborative research between U.S. biomedical scientists, supported by the National Institutes of Health (NIH), and investigators in eligible countries.

Application postmark deadlines:

Regular FIRCA: November 25, March 25, and July 25.

AIDS FIRCA: January 2, May 1, and September 1.

Application information and guidelines for the FIRCA and other FIC programs may be obtained from the FIC website at: <http://www.nih.gov/fic/> under Research and Training Opportunities.

Or e-mail **Dr. Kathleen Michels**, the FIRCA Program Officer, at firca@nih.gov.

FIRCA Program
Division International Training
and Research
Fogarty International Center
National Institutes of Health
Building 31, Room B2C39
31 Center Drive, MSC 2220
Bethesda, MD 20892-2220
Tel: 301-496-1653
FAX: 301-402-0772
firca@nih.gov

POSITIONS OPEN

BIOLOGY FACULTY POSITION WELLS COLLEGE

The Major Program in Biological and Chemical Sciences invites applicants for a tenure-track position in animal biology at the **ASSISTANT PROFESSOR** level. The successful candidate will teach courses at the introductory and advanced levels (including animal physiology, developmental biology, and/or cellular biology and subjects in the candidate's area of interest/expertise), and carry out research in partnership with undergraduate majors, all of whom do one and a half to two years of research. The successful candidate will be committed to innovative teaching, investigative learning, conscientious advising, and his/her own continuing intellectual vitality. Preference will be given to applicants with broad interests and/or experience in interdisciplinary teaching. Wells College is a selective undergraduate college for women located in central New York. Biological and chemical sciences comprises one of the largest majors at the college; approximately half of these graduates later obtain advanced degrees.

Candidates must hold a Ph.D. Applicants should submit a curriculum vitae, statement of teaching philosophy and research interests, transcripts, and three letters of reference to: **Biology Search Committee, c/o Dr. Ellen Hall, Dean of the College, Wells College, Aurora, NY 13026-0500**. Application deadline is November 1, 1998. *Wells College is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

University of Oklahoma. The Department of Chemistry and Biochemistry invites applications for two **TENURED** or **TENURE-TRACK FACULTY POSITIONS**, one each in inorganic and organic chemistry, beginning August 1999. Appointments at all levels will be considered. The Department is particularly interested in programs that interface chemistry and biology, hence applicants with interests in the biologically and medically related areas of inorganic or organic chemistry are especially encouraged. Applicants should have a Ph.D. degree, be highly committed to teach inorganic or organic chemistry courses at the undergraduate and graduate levels, and must be strongly motivated to maintain a vigorous and externally funded research program. Applicants should submit a curriculum vitae/résumé, a description of research plans, and the names of three references to either: **Professor George Richter-Addo, Chair of Inorganic Search Committee or Professor Kenneth Nicholas, Chair of Organic Search Committee, Department of Chemistry and Biochemistry, University of Oklahoma, 620 Parrington Oval, Room 208, Norman, OK 73019**. Applicants at the Assistant Professor level should also arrange for three letters of reference to be sent directly to the Chair of the appropriate Search Committee. Review of the applications will begin on November 23, 1998, but the positions will remain open until they are filled. *The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply. OU has a policy of being responsive to the needs of dual-career couples.*

TENURE-TRACK FACULTY POSITION

The Department of Physiology and Neuroscience and the Department of Psychiatry at the Medical University of South Carolina (MUSC) jointly seek to fill one tenure-track position. The academic rank will be commensurate with experience. Candidates must have a Ph.D., M.D., or the equivalent, a minimum of two to three years of post-doctoral training, and evidence of the ability to establish and continue an extramurally funded research program in substance abuse. Candidates should have extensive training and research experience in preclinical alcohol studies. Preference will be given to preclinical research with implications for alcohol treatment, such as molecular pharmacology and genetics or behavioral pharmacology. The applicant will be expected to interact with the NIAAA-funded Alcohol Research Center on campus. To apply for the position, send a letter of application indicating the rank you are applying for, curriculum vitae, summary of research interest, and a list of at least three individuals to contact as references on your behalf to: **Howard Becker, Ph.D., Search Committee, Department of Psychiatry, Center for Drug and Alcohol Programs, Medical University of South Carolina, Charleston, SC 29425**. Review of applications will begin on November 1, 1998, and continue until the position is filled. Further information can be obtained from e-mail: beckerh@musc.edu.

Medical University of South Carolina is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR OF HUMAN ANATOMY AND PHYSIOLOGY

St. John Fisher College, in Rochester, New York, invites applications and nominations for a non-tenure-track position of Assistant Professor of anatomy and physiology to begin no later than September 1, 1999. Fisher is an independent college serving over 2,000 students at a suburban campus. The College offers 25 undergraduate and eight graduate programs in the School of Adult and Graduate Education. The successful candidate will teach anatomy and physiology primarily to nursing majors, and have the opportunity to develop a specialty course for majors. Opportunities for nontraditional educational delivery, including distance learning, are available. The appointment is for a one- to three-year period, with opportunities for renewal. The individual must be computer-competent and able to blend virtual dissections with traditional approaches to anatomy in the laboratory. Experience in computer simulations in human or animal physiology is also helpful. A demonstrated commitment to undergraduate liberal arts approaches, a desire to be a student advisor, and a willingness to help foster the continuing growth of the department are essential. A Ph.D. or equivalent terminal degree is required. Applicants should submit a letter of application, a résumé, a description of past teaching experiences, and a list of references to:

**Chairman, Biology Search Committee
Biology Department
St. John Fisher College
3690 East Avenue
Rochester, NY 14618**

Applications must be received by December 1, 1998, at which time the review will begin and continue until the position is filled.

St. John Fisher College is an Equal Opportunity/Affirmative Action Institution and is committed to providing Equal Opportunity through its employment practices. Women and minorities are encouraged to apply.

FACULTY POSITIONS THE AMERICAN UNIVERSITY IN CAIRO

Two openings to teach, in English, undergraduate courses in the areas of cell biology/molecular biology, ecology/environmental biology, and microbiology/genetics. In addition to their specialty, appointees will be expected to teach courses in general biology and scientific thinking. Normal teaching load is three courses per semester. The Ph.D. degree is required, and teaching experience is preferred. Two-year appointments (renewable) begin September 1999. Rank, salary according to scale based on qualifications and experience. For expatriates, housing, round-trip air travel for appointee and accompanying family to Egypt, plus schooling for up to two children included. *In view of AUC's protocol agreement with the Egyptian Government, which requires specific proportions of Egyptian, U.S., and third-country citizen faculty, at this time preference will be given to qualified applicants who are U.S. citizens.* Mail letter of application specifying Job# 1/2-BIOL with résumé and names and addresses of three references to: **Dr. Earl Sullivan, Acting Provost, The American University in Cairo, 420 Fifth Avenue, Floor 35C, New York, NY 10018-2729** before November 15, 1998. *AUC is an Equal Opportunity Employer.*

BIOLOGY FACULTY POSITIONS

The Department of Zoology, Ohio Wesleyan University expects to have two tenure-track faculty positions at the **ASSISTANT PROFESSOR** level starting August 1999. One position is in cell and molecular biology/immunology; teaching responsibilities include a section of introductory cell biology, an advanced course in cell and molecular biology, and an advanced course in immunology. The second position is in animal diversity; teaching responsibilities include a section of introductory zoology and two or more advanced courses in the candidate's areas of specialty, such as invertebrate zoology, marine biology, entomology, parasitology, and conservation biology. A Ph.D., evidence of excellence in undergraduate teaching, and a commitment to undergraduate research are required. Please send a statement of teaching and research interests, curriculum vitae, transcripts, up to five reprints, and three letters of recommendation to: **John Gatz, Department of Zoology, Ohio Wesleyan University, Delaware, OH 43015-2398** by November 29, 1998. For further information, see website: <http://www.owu.edu/~zoolweb/position.htm>.

Ohio Wesleyan University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

POSITIONS OPEN

ASSISTANT, ASSOCIATE, OR FULL PROFESSOR DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS University of Arkansas for Medical Sciences

The Department of Physiology and Biophysics at the University of Arkansas for Medical Sciences invites applications for a full-time tenure-track faculty appointment at the level of Assistant Professor, Associate Professor, or Full Professor. The successful candidate will be expected to establish an independent, extramurally funded research program and to participate in departmental teaching programs in the College of Medicine and the Graduate School. We seek individuals whose research interests complement existing strengths in the department, including protein targeting, receptor regulation, membrane biophysics, intercellular and subcellular signal transduction, cellular/molecular neurobiology, and gastrointestinal physiology. For more information about the department, visit our website: <http://www.uams.edu/physiology>.

Applicants should submit curriculum vitae, brief statement of research interests, and the names and addresses of three individuals who may be contacted for letters of reference to:

**Michael L. Jennings
Department of Physiology and Biophysics
University of Arkansas for Medical Sciences
4301 West Markham Street
Mail Slot 505
Little Rock, AR 72205**

In order to receive full consideration by the Search Committee, applications should be received no later than December 1, 1998.

The University of Arkansas is an Equal Opportunity Employer and welcomes applications from women and members of minority groups.

MICROBIAL ECOLOGIST. The Department of Biological Sciences at California State University, Chico invites applications for a tenure-track **ASSISTANT PROFESSORSHIP** beginning in fall 1999. Candidates must have a Ph.D., a specialization in microbial ecology, experience with molecular techniques, a demonstrated knowledge of both ecology and microbiology, a demonstrated ability or potential to develop a vigorous externally funded research program, teaching experience at the undergraduate level, and a strong interest in teaching excellence. Postdoctoral experience is preferred. Responsibilities include teaching upper-division courses in ecology and microbial ecology, teaching lower-division introductory biology and microbiology courses, developing a graduate course in area of specialization, establishing a research program with potential for external funding that will involve undergraduate and graduate students, and participating in an interdepartmental research program in environmental science. Normal faculty duties include undergraduate advising as well as 12 to 16 classroom hours of teaching per week. Applicants should submit a letter of application, curriculum vitae, a statement of teaching philosophy, representative reprints, complete academic transcripts, and the names, addresses, e-mail, and telephone numbers of three references to: **Dr. Michael Abruzzo, Chair, Department of Biological Sciences, California State University, Chico, CA 95929-0515** by December 18, 1998. *As a University that educates students of various ethnic and cultural backgrounds, we seek to create as diverse a pool of candidates as possible. CSU, Chico is an Equal Employment Opportunity/Affirmative Action/ADA/IRCA Employer.*

FACULTY POSITION DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY Strych School of Medicine Loyola University Chicago

The Department of Microbiology and Immunology (Chair, **Dr. Katherine L. Knight**) invites applications for a **TENURE-TRACK** or **TENURED FACULTY** appointment. The candidate is expected to develop or have established an independent, extramurally funded research program to study molecular aspects of immunology or virology. Excellent facilities and attractive start-up funds are available. Applicants should send a curriculum vitae, a concise statement of their present and future research interests, and names and addresses of three references to: **Dr. Katherine Knight, Department of Microbiology and Immunology, Loyola University Chicago, 2160 South First Avenue, Building 105, Maywood, IL 60153**.

Tenure-Track Position Developmental Biology

The Laboratory of Molecular Genetics, National Institute of Child Health & Human Development (NICHD), is seeking applications for a tenure-track independent research position in Developmental Biology/Genetics. Appropriate areas of research include pattern formation, cell interactions, and mechanisms of regulatory control at the genetic, cellular, and molecular level. For additional information see [http://dir.nichd.nih.gov/annrepint8.htm#Laboratory of Molecular Genetics](http://dir.nichd.nih.gov/annrepint8.htm#Laboratory%20of%20Molecular%20Genetics).

An M.D. or Ph.D. degree is required. Candidates should have established strong research credentials at the forefront of their discipline, with a substantial publication record in leading international journals. Institutional support, excellent facilities, and the opportunity for productive interactions will be available to the successful candidate. A vigorous, independent research program will be expected.

Interested applicants should submit a curriculum vitae, bibliography, three letters of recommendation, a summary of unpublished current work, and plans for future research by the closing date of December 15, 1998. Materials should be sent to: **LMG Search Committee, National Institutes of Health, 6 Center Drive, Building 6B, Room 413, Bethesda, MD 20892.**

NIH is an Equal Opportunity Employer.



Fungal Molecular Biologist (Research Manager) - CP-814S

The successful candidate will develop novel transgene-based strategies for control of plant pathogenic fungi and their toxic metabolites. Requirements include at least two years of postdoctoral experience in biological sciences with a strong background in fungal molecular biology, genetics, and biochemistry. Ability to function in a team environment is essential. Pioneer Hi-Bred offers state-of-the-art genomics, expression analysis, and analytical facilities to support gene discovery research. Visit our website at <http://www.pioneer.com/>. For confidential consideration send scannable resume, indicating job number, to: Pioneer Hi-Bred International, Inc., Attn: Human Resources Research (Job #CP-814S), P.O. Box 1004, Johnston, IA 50131-1004 USA, e-mail: jobsresearch@phi.bred.com



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A CELEBRATED HISTORY, AN EXCITING DESTINY.

As we at ALZA mark our 30th year, we celebrate our achievements as an integrated, commercial pharmaceutical company. Ours is a history of innovation focused on expanding the therapeutic value of our drug delivery technology around the world. Moving forward in our role as a developer, manufacturer and marketer of innovative products, we remain committed to improving the lives and health of people everywhere. Join us as we meet our exciting destiny and create the pharmaceuticals of the future!

RESEARCH SCIENTIST/RESEARCH FELLOW Biopharmaceutical R&D

You will lead an R&D formulation program for proteins and peptides as part of ALZA's proprietary delivery technologies team. This will encompass preformulation, formulation and development tasks to support delivery technology development, including supervising a group of formulation and analytical chemists. This position requires a PhD in Pharmaceutics, Pharmaceutical Chemistry, Biochemistry, Chemical Engineering or equivalent with 2-6 years of postgraduate macromolecular formulation in the pharmaceutical industry. Candidates must possess experience in at least one of the following areas: protein preformulation, protein analysis (chromatography, spectroscopy), protein formulation (freeze-drying, spray-drying, powder analysis, emulsions and suspensions). Along with excellent written and verbal communication skills, your background must demonstrate strong managerial/leadership skills in a multidisciplinary, matrix environment. **Job #: SCI1098-LR**

STAFF SCIENTIST Skin Biology

You will contribute to the further understanding and development of transdermal drug delivery technology as it relates to skin biology. Experience in the area of cutaneous inflammation and a working knowledge of molecular biology required. Candidates will need a PhD in Immunology, Biology, Biochemistry or a related discipline and 0-2 years postdoctoral experience with a solid background in immunology and/or inflammation. Your molecular/cellular-based techniques should include RNA extraction, PCR, RT-PCR, ELISA, tissue culture, and *in vivo* techniques. Experience in immunohistochemistry and flow cytometry helpful. **Job #: SCI1098-GS**

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Destiny is not a matter of chance. It's a matter of choice. Make yours with a career move to ALZA. Located in the heart of Biotech Bay, we provide a collaborative team of dedicated scientists and professionals who have made the last 30 years something worth celebrating. To learn more, please send your resume, indicating the Job Code corresponding with the position of your interest, to ALZA Corporation, HR Dept./Job #:, 950 Page Mill Road, PO Box 10950, Palo Alto, CA 94303-0802; fax: (650) 494-5656; email: jobs@alza.com (ASCII files only). Our hiring managers will review all qualified resumes. You may also call our Job Hotline at (650) 494-5319. ALZA is proud to be an EOE



POSITIONS OPEN

DIRECTOR OF THE NANOSCIENCE INITIATIVE AT THE UNIVERSITY OF SOUTH CAROLINA

The Department of Chemistry and Biochemistry invites applications for a position at the **ASSOCIATE** or **FULL PROFESSOR** level as the Director of the University's Nanoscience Initiative. A Ph.D. is required, with evidence of work in the broadly defined area of nanoscience. The applicant must maintain a vigorous research program at the graduate level, teach at undergraduate and graduate levels, and possess administrative skills and vision commensurate with the Directorship. Applicants should submit a complete curriculum vitae, publication list, and statement of research interests and accomplishments to: **Chair of Search Committee, Chemistry and Biochemistry, University of South Carolina, Columbia, SC 29208**. Evaluation of applications will begin December 1, 1998, although the search will remain open until a suitable candidate is obtained. Further information is available at website: <http://www.sc.edu/index.html> and website: <http://reaction.psc.sc.edu/chem/nano-science/>.

EXPERIMENTAL PHYSICAL CHEMIST

The Department of Chemistry and Biochemistry seeks applications from Experimental Physical Chemists for a tenure-track position. Preferred level of appointment is at the rank of **ASSISTANT PROFESSOR**, but applications for a more **SENIOR** appointment will be considered. We are especially interested in applicants whose research involves nanostructured materials, surfaces, and/or interfaces. Ph.D. required; postdoctoral experience preferred. The successful candidate will be expected to establish a vigorous research program that will attract outside funding and to teach students at both the undergraduate and graduate levels. Applicants should send a curriculum vitae and a detailed description of research plans, and arrange for three letters of recommendation to be sent, to: **Chair of Search Committee, Chemistry and Biochemistry, University of South Carolina, Columbia, SC 29208**. Evaluation of applications will begin November 1, 1998. Visit our website: <http://www.chem.sc.edu>.

The University of South Carolina is an Equal Opportunity/Affirmative Action Employer and encourages applications from minorities and women.

ASSISTANT PROFESSOR DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY Medical College of Ohio

Applications are invited for a tenure-track, full-time faculty position from individuals who have a Doctoral degree, postdoctoral experience, and record of research productivity. The successful candidate is expected to develop an independent, extramurally funded research program and participate in teaching.

We are particularly interested in applicants whose research areas include cellular and molecular aspects of host-pathogen interactions at mucosal surfaces.

Competitive salary and start-up funds will be provided. Applicants should submit a statement of research goals with representative reprints, a curriculum vitae, and three letters of recommendation to: **Garry T. Cole, Ph.D., Chair, Department of Microbiology and Immunology, Medical College of Ohio, 3055 Arlington Avenue, Toledo, OH 43614-5806**. Deadline is December 15, 1998. Visit our website: <http://www.mco.edu:80/micro/index.html>. *Affirmative Action/Equal Opportunity Employer.*

TOXICOLOGY RESEARCH

The Toxicology Research Laboratory at the University of Illinois at Chicago is seeking a Research Scientist at the **RESEARCH ASSISTANT PROFESSOR** or **RESEARCH INSTRUCTOR** level, depending on experience. The individual should have a Ph.D. and a background and/or experience in reproductive/developmental toxicology or physiology, and will participate in varied GLP safety assessment studies on new drugs. Additional experience in neuro/behavioral testing, general toxicology, metabolism, etc., would be helpful. The position would also participate in basic research programs. Please send curriculum vitae, research interests, and three references to: **Dr. Barry S. Levine, Director, Toxicology Research Laboratory, Department of Pharmacology, University of Illinois at Chicago, 1940 West Taylor Street, Chicago, IL 60612**. FAX: 312-996-7755; e-mail: bslevine@uic.edu. *UIC is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN



ASSISTANT PROFESSOR OF PHYSIOLOGY

The Department of Physiology of the Northeastern Ohio Universities College of Medicine (NEOUCOM) is seeking applicants to fill two tenure-track positions in the area of signal transduction. The Department has a cardiopulmonary research focus and invites applications from individuals investigating intracellular signaling/gene regulation in either the heart, vasculature, or lungs to complement ongoing programs in these areas. Candidates must have a Ph.D. and/or M.D. with appropriate Postdoctoral Fellowship training, a strong record of research accomplishment, and the ability to establish an independent externally funded program. Excellent opportunities exist within the Department and Institution for collaboration. Medical student teaching responsibilities will be to participate in teaching physiology to first- and second-year students. Department faculty are members of the graduate faculty in programs leading to the Ph.D. through the School of Biomedical Sciences at Kent State University. The successful candidate will have the opportunity to develop graduate courses that relate to his/her specialty. Further information about the Department and Institution can be obtained from the NEOUCOM website: <http://www.neoucom.edu>. Candidates should send a letter of application describing research experience and goals, accompanied by a curriculum vitae, and the names and addresses of three references, by November 9, 1998, to:

**Human Resources
c/o Michael B. Maron, Ph.D.
Professor and Chairperson
Department of Physiology
Northeastern Ohio Universities
College of Medicine
P.O. Box 95
Rootstown, OH 44272-0095**

NEOUCOM is an Affirmative Action/Equal Opportunity Employer.

CHAIR, PHYSIOLOGY AND BIOPHYSICS GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE

Georgetown University Medical Center is seeking a nationally known academic Physiologist to Chair the Department of Physiology and Biophysics. The department maintains active research programs in broad areas of physiology (cardiovascular, endocrine, neuroscience, and renal) utilizing cellular, molecular, and integrative approaches. In addition, the department has a strong, nationally ranked graduate program leading to both the M.S. and Ph.D. degrees.

The ideal candidate will have a Ph.D., M.D., M.D.-Ph.D., or similar terminal degree, and should possess an outstanding record of research and scholarly achievements, and demonstrate leadership ability to manage and mentor a diverse group of scientists and to oversee the fiscal affairs of a department. The candidate should also be knowledgeable about the current trends in the education of medical and graduate students.

Review of applications will commence on October 30, 1998, and will continue until the position is filled. Candidates should send a letter of interest stating their qualifications for this position and a copy of their curriculum vitae to:

**Raymond L. Woosley, M.D., Ph.D.
Chair, Physiology and Biophysics Search Committee
Georgetown University School of Medicine
3900 Reservoir Road N.W.
Washington, DC 20007**

Georgetown University is an Affirmative Action/Equal Opportunity Employer. Georgetown University encourages applications from qualified women and minorities.

Developmental neuroscience. The Department of Psychology, University of California, Santa Barbara, invites applications for a tenure-track **ASSISTANT PROFESSOR** position effective July 1, 1999. Full details of the position can be found at our job website: <http://www.psych.ucsb.edu/position/devneuroscifac.htm>, in the September 1998 edition of the APS Observer, or can be requested by FAX: 805-893-7517. Deadline: December 1, 1998. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DEPARTMENT OF BIOCHEMISTRY MICHIGAN STATE UNIVERSITY

The Department of Biochemistry at Michigan State University (MSU) seeks applications for a tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level in the area of genetic engineering of plant metabolism with the objective of developing new plants or plant products. This is one of several new positions intended to further enhance the position of Michigan State University as a leader in the plant sciences. Applicants must have a Ph.D. and postdoctoral research experience that demonstrates productivity and gives evidence of potential for independent research. The successful applicant will participate in the departmental program in plant biochemistry, an area of research emphasis within the Biochemistry Department. Other areas of strength in the department include programs in the biochemistry of the cell nucleus and in protein structure, function, and design. Thus, the department provides a stimulating environment and areas for collaboration. In addition, the successful candidate will participate in interdisciplinary interactions with Plant Scientists in other departments and at the MSU-DOE Plant Research Laboratory.

The Department of Biochemistry occupies a modern research building with well-equipped research and teaching laboratories and support facilities, and has vigorous undergraduate, graduate, and postdoctoral training programs. Excellent greenhouse space is readily available in close proximity to the Biochemistry Building.

Applicants should submit a curriculum vitae and a description of research accomplishments and future interests, and have three letters of recommendation sent on their behalf to: **Dr. William L. Smith, Chairperson, Department of Biochemistry, Box DP, Michigan State University, East Lansing, MI 48824-1319**. To ensure consideration, applications should be received by December 8, 1998. Further information about the Department of Biochemistry is available at website: www.bch.msu.edu.

Michigan State University is an Equal Opportunity/Affirmative Action Employer. The Biochemistry faculty has explicitly endorsed efforts to increase the diversity of its ranks, and, accordingly, candidates from groups currently underrepresented in academic science are encouraged to apply.

MICROBIOLOGIST UNIVERSITY OF RICHMOND

The Department of Biology at this highly selective liberal arts university invites applications for a tenure-track **ASSISTANT PROFESSOR** position to begin August 1999. We seek a Ph.D. Microbiologist with broad interests in microbes in their natural environments. Primary teaching responsibilities include general microbiology, microbial ecology, an introductory organismal biology course for majors, and participation in the general education program. Development of a strong research program with a field-based component that actively engages both undergraduates and Master's students is expected. Applicants should submit by 1 December 1998 a curriculum vitae, statements of teaching philosophy and research interests, copies of graduate transcripts, no more than five publications, and three letters of recommendation to: **Dr. W. John Hayden, Department of Biology, University of Richmond, VA 23173-9998**. *The University of Richmond is an Equal Opportunity/Affirmative Action Employer and strongly encourages women and minorities to apply for its positions.*

ASSISTANT PROFESSOR OF MOLECULAR BIOLOGY

Full-time, tenure-track position. Begins fall term 1999. Teach junior-level genetics course with laboratory and advanced elective in area of specialty. Participate in teaching introductory biology. Conduct active research program involving undergraduates. Ph.D., a commitment to undergraduate education in a liberal arts setting, and strong preparation for teaching genetics from molecular and classical perspectives required. Must have a commitment to continued research in molecular biology with focus on molecular mechanisms in an area such as, but not limited to, cell biology, development, immunology, or microbial genetics. Postdoctoral research and previous undergraduate teaching experience desirable. Submit interest letter, curriculum vitae, a teaching statement (including philosophy, course descriptions, and research interests) and three reference letters by November 2, 1998, to: **Molecular Biology Search, University of Puget Sound, P.O. Box 7297, Tacoma, WA 98407**. *Equal Opportunity Employer/Affirmative Action.*



RESEARCH SCIENTIST

Stratagene, a leader in the development and manufacture of molecular biology research products in San Diego, is seeking a research professional to perform DNA sequencing using ABI 377.

This position requires an MS or BS in science and 6 years directly related experience. This position may also supervise 1-2 assistants to set up a large scale sequencing facility.

Interested candidates send resume, indicating Job Req. JML10-98R, to: STRATAGENE, 11011 N. Torrey Pines Rd., La Jolla, CA 92037, Attn: Professional Staffing. Drug and alcohol testing required. AA/EOE.



CENTER FOR BIOCATALYSIS AND BIOPROCESSING THE UNIVERSITY OF IOWA POSTDOCTORAL POSITIONS (Microbiology preferred)

Exceptional career opportunities in a state-of-the-art, GLP laboratory. Exciting, varied, and unique work with strain improvement, fermentation, downstream processing, and analytical applications from bench to pilot scale. Challenging projects include optimizing fermentations; producing and isolating recombinant proteins, nucleic acids, and secondary metabolites; cultivating BL2 pathogens; and conducting biotransformations. Candidates must be interested in participating in contractual research and development in a team environment. Ph.D. degree in microbiology preferred. Familiarity with techniques of biochemistry, molecular biology, protein and plasmid DNA purification required. Experience with HPLC, computers, fermentation, growth medium design, and fermentors valued. Positions expected for two years at a salary commensurate with experience. An excellent health-care and fringe benefits package included.

Please forward a résumé and two letters of recommendation to: **Dr. Marvin Scher, Center for Biocatalysis and Bioprocessing, Oakdale Research Park, 2501 Crosspark Road, University of Iowa, Iowa City, IA 52242-5000. Phone: 319-335-4906; FAX: 319-335-4901; E-mail: marvin-scher@uiowa.edu.** The University of Iowa is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply. Visit the CBB website at <http://www.uiowa.edu/~biocat>.

Postdoctoral Research Opportunities Laboratory of Cell Biology National Cancer Institute

Michael M. Gottesman, M.D., Laboratory Chief

The Laboratory of Cell Biology in the National Cancer Institute is an interdisciplinary group of molecular and cell biologists, biochemists, structural biologists, and immunologists interested in exploring the biological basis of drug resistance and growth regulation in cancer, mechanism of antigen presentation energy-dependent protein folding and degradation, pigment formation in melanocytes, and structure and function of membrane proteins. The Laboratory is housed in newly renovated, well-equipped facilities, with a close-knit group of Principal Investigators interested in optimizing research training and mentoring in the Laboratory for all fellows. The Laboratory of Cell Biology has an exceptionally good record of placing fellows in academic, government, and industrial research jobs following training. Research opportunities for recent and prospective graduates are available with the following principal investigators:

Multidrug Resistance Section

Michael Gottesman, M.D.

This section uses cell biological and molecular genetic approach to focus on mechanisms of multidrug resistance in cancer cells and to exploit defined drug resistance mechanisms in gene therapy. **E-mail: mgottesman@nih.gov.**

Chemical Immunology Section

Ettore Appella, M.D.

This section uses cellular and biochemical methods to study the interaction between T cell receptors and their ligands, in an effort to understand how antigenic peptides influence immune responses. In addition, the section uses a biochemical and structural approach to study the function of the wild-type p53 protein. **E-mail: appellae@pop.nci.nih.gov.**

Pigment Cell Biology Section

Vincent J. Hearing, Ph.D.

This section focuses on factors important to the growth and differentiation of melanocytes and their significance to the proliferation and metastasis of malignant melanoma; characterizes melanogenic enzymes and structural matrix proteins that regulate the quality and quantity of melanin pigment produced within melanocytes; and their photoprotective properties are characterized. **E-mail: hearingv@nih.gov.**

Biochemistry of Proteins Section

Michael Maurizi, Ph.D.

This section studies the regulation and function of *in vivo* protein degradation and structure/function relationships underlying protein folding, unfolding, and degradation by ATP-dependent proteases. **E-mail: mmaurizi@helix.nih.gov.**

Transport Biochemistry Section

Suresh V. Ambudkar, Ph.D.

This group employs biochemical, pharmacological, and molecular biological approaches to study the roles of ABC transport proteins in cancer cells. **E-mail: ambudkar@helix.nih.gov.**

Crystallography Section

Di Xia, Ph.D.

This section combines macromolecular crystallography with other biophysical and biochemical techniques. This unit explores atomic details of protein structures to understand functions of macromolecules involved in membrane transport and cellular apoptosis. **E-mail: dixia@helix.nih.gov.**

To Apply

Please send a cover letter, curriculum vitae, bibliography, and a one-page statement including research interests and career goals to the individual investigators **c/o Michael M. Gottesman, M.D., Chief, Laboratory of Cell Biology, NCI, Building 37, Room 1A09, 37 CONVENT DR MSC 4255, BETHESDA, MD 20892-4255.**

POSITIONS OPEN

ASSISTANT PROFESSOR INSECT SYSTEMATICS SCHOOL OF INTEGRATIVE BIOLOGY University of Illinois at Urbana-Champaign

The School of Integrative Biology at the University of Illinois in Urbana-Champaign invites applications for a full-time tenure-track position at the rank of **ASSISTANT PROFESSOR** in insect systematics. We seek individuals devoted to using modern systematic approaches, including molecular phylogenetic methods. Candidates must have broad training in insect systematics and evolution, a demonstrated record of research excellence and productivity, and potential for obtaining external funding. A Ph.D. is required and postdoctoral experience is preferred. This position will be in the Department of Entomology and starts in August 1999.

The successful applicant will be expected to develop and maintain a vigorous, independently funded research program. Responsibilities will include teaching a graduate-level course in insect systematics, contributing to an advanced course on principles of systematics, and participation in teaching undergraduate biology. Interactions with colleagues in the Illinois Natural History Survey and elsewhere on campus are encouraged. Salary will be commensurate with experience. To ensure full consideration applications must be received by December 11, 1998. Applicants should submit a curriculum vitae and statements of research and teaching interests, and arrange to have three letters of reference sent to: **Dr. Hugh Robertson, Chair of Systematics Search Committee, School of Integrative Biology, University of Illinois, 286 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801. Telephone: 217-333-3044; FAX: 217-244-1224.**

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

ASSISTANT PROFESSOR POSITION

The Department of Biological Sciences, Rochester Institute of Technology seeks a **PLANT SCIENTIST** to fill a full-time, tenure-track position. Ph.D. required. Demonstrated teaching and postdoctoral experience desirable. Broadly trained with knowledge and skills in plant cell/molecular biology, plant physiology, plant cell and tissue culture. Teach botany and plant biotechnology. Participate in foundation course instruction, student advising, and other service activities. Encouraged to develop other courses in area of interest. Will supervise department greenhouse. Research in specialty area encouraged. We are a growing department with 13 faculty and 400 students in two undergraduate degree programs (biology and biotechnology). The department seeks candidates who will assist us in achieving the Institute's Diversity Initiative. Position available September 1, 1999. Applications accepted and reviewed until position is filled. Submit curriculum vitae and arrange to have three reference letters sent to: **Chair, Search Committee, Department of Biological Sciences, Rochester Institute of Technology, 85 Lomb Memorial Drive, Rochester, NY 14623-5603. RIT is an Equal Opportunity/Affirmative Action Employer, and especially encourages applications from persons able to contribute in a meaningful way to the Institute's commitment to diversity and pluralism.**

ASSISTANT PROFESSOR HARVARD MEDICAL SCHOOL Department of Biological Chemistry and Molecular Pharmacology

The Department of Biological Chemistry and Molecular Pharmacology (BCMP), Harvard Medical School seeks applications to fill a tenure-track position at the Assistant Professor level.

We invite applications from individuals with strong experimental backgrounds in any aspects of biochemistry and molecular pharmacology with a commitment to excellence in research and teaching.

Applicants should submit by December 1, 1998, curriculum vitae, bibliography, statement of research plans, and arrange for three letters of recommendation to be sent to: **Ed Harlow, Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, 240 Longwood Avenue, C1-213, Boston, MA 02115.**

Harvard University is an Equal Opportunity/Affirmative Action Employer and encourages the applications of qualified women and minorities.

POSITIONS OPEN

EXTENSION PLANT PATHOLOGIST SUBTROPICAL CROPS

Applications are invited for a Cooperative Extension Plant Pathology Specialist at the **ASSISTANT** level. This position is 70 percent cooperative extension (CE) and 30 percent research (AES) with an academic career-track, 11-month appointment in the Department of Plant Pathology at the University of California, Riverside campus. It will be available starting July 1, 1999. The successful applicant will be expected to develop an innovative, problem-solving, applied research and extension program focusing on managing diseases of subtropical fruit and nut crops with special emphasis on avocados and citrus. The appointee should be prepared to develop and disseminate information on monitoring systems to detect the presence and abundance of disease organisms and on management decision systems for controlling diseases. Opportunities exist to supervise graduate students and to cooperate and interact with the two existing departmental CE Specialists and 17 research faculty in the Plant Pathology Department, as well as with county-based CE Advisors and academics from other campus departments with programs on subtropical crops. Applicants must have a Ph.D. in plant pathology; a background interest or experience in agriculture and applied, first-oriented plant pathology; and must possess a strong commitment to extending knowledge to the agricultural industries of California and the public. Applicants must also have demonstrated an ability to conduct productive and creative plant pathology research. Applicants should submit (1) a curriculum vitae, including research and extension experience; (2) undergraduate and graduate transcripts; (3) complete lists and selected reprints of published works and submitted manuscripts; (4) a statement of research and extension interests; and (5) three letters of reference to: **Dr. John A. Menge, Chair, Extension Plant Pathologist Search Committee, Department of Plant Pathology, University of California, Riverside, CA 92521-0122. Telephone: 909-787-4432; FAX: 909-787-3719. Applicant deadline: January 1, 1999. The University of California is an Affirmative Action/Equal Opportunity Employer.**

TENURE-TRACK ASSISTANT PROFESSOR EMORY UNIVERSITY SCHOOL OF MEDICINE

The Department of Pharmacology seeks an **ADVANCED POSTDOCTORAL FELLOW** or early Assistant Professor taking a modern approach to biomedical research problems. Candidates should have strong evidence of sustained creativity and a temperament that facilitates collegial and collaborative interactions. Qualified Ph.D. or M.D. candidates with research interests in the broad field of intracellular signal transduction are especially encouraged to apply. The successful candidate will receive excellent laboratory space and handsome start-up funds in a setting that fosters her or his professional development. Our multidisciplinary graduate programs provide a large pool of graduate students, and successful candidates will also participate in medical student training. Emory University is located in a wooded, residential area in the outskirts of Atlanta, and is undergoing a period of rapid growth in molecular and cellular biomedical research programs. Check us out at website: <http://www.emory.edu/PHARMACOLOGY/>. Applicants should send curriculum vitae, representative reprints, a summary of current research and future plans, and names of three or more referees to: **Raymond Dingleline, Chairman, Department of Pharmacology, Emory University School of Medicine, Atlanta, GA 30322. Equal Opportunity Employer.**

EXERCISE PHYSIOLOGY/BIOCHEMISTRY NEUROPHYSIOLOGY/NEUROSCIENCE

The Department of Kinesiology and Health Science, Faculty of Pure and Applied Science at York University invites applications for two separate tenure-track appointments at the **ASSISTANT PROFESSOR** level, one in exercise physiology/biochemistry and the other in neurophysiology/neuroscience, each with an emphasis on some aspect of health. A Ph.D. and a promising publication record in refereed journals are required, as well as the ability to develop a research program supported by external funding. Postdoctoral experience and a research program utilizing cellular and molecular approaches would be an asset. For complete information write: **G. Lurie, Kinesiology and Health Science, York University, Toronto, Ontario M3J 1P3 Canada. Website: www.yorku.ca/dept/physed; e-mail: glurie@yorku.ca.**

POSITIONS OPEN

ASSISTANT PROFESSOR IN PROTEOMICS

Applications are invited for a tenure-track position at the rank of Assistant Professor in the field of proteomics. This is a joint position between the Department of Biochemistry, Faculty of Medicine and Dentistry and the Department of Chemistry, Faculty of Science. Applicants must have a Ph.D. (or equivalent) and appropriate postdoctoral experience.

The successful candidate will have experience in the identification and characterization of proteins by mass spectrometry and will be expected to establish an independent, externally funded research program with a focus in proteomics. The newly established Integrated Research Institute at the University of Western Ontario will house an Advanced Biotechnology Research Center, which will provide excellent opportunities for interactions and collaborations with other research groups. The candidate will join two active Departments (**website: www.uwo.ca/chem and website: www.biochem.uwo.ca**) with strong links at the undergraduate teaching and graduate research levels and will be expected to participate enthusiastically in teaching undergraduate or graduate courses in biochemistry and chemistry.

Interested candidates should send their curriculum vitae, names of three references, along with a description of research accomplishments, with selected publications and a proposal for future research to: **Dr. T. C. Y. Lo, Department of Biochemistry or Dr. N. O. Petersen, Department of Chemistry, The University of Western Ontario, London, Ontario N6A 5B7 Canada. E-mail: tcylo@julian.uwo.ca or petersen@julian.uwo.ca. The Search Committee will begin deliberations of applications on January 4, 1999.**

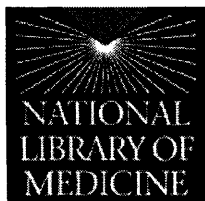
Positions are subject to budget approval. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. The University of Western Ontario is committed to Employment Equity, welcomes diversity in the workplace, and encourages applications from all qualified individuals including women, members of visible minorities, aboriginal persons, and persons with disability.

POSITION IN CANCER GENETICS

Evanston Northwestern Healthcare (ENH) and the Robert H. Lurie Cancer Center of the Northwestern University invites applicants for a full-time appointment for an outstanding Cancer Geneticist at the **ASSOCIATE** or **FULL PROFESSOR** level starting by July 1, 1999. The successful candidate must have a strong background in genetic theory and methods, and will be expected to develop an internationally recognized research program in the area of genetics, particularly related to identification of novel suppressor elements. The successful candidate should have a proven track record. Applicants must have a Ph.D. and/or M.D. Salary will be commensurate with qualifications and experience. In order to ensure full consideration, applications must be received by December 31, 1998. Applications including curriculum vitae and a brief statement of research interests should be forwarded to: **Janardan D. Khandekar, M.D., Chairman, Search Committee for Research Scientist, Evanston Northwestern Healthcare, 2650 Ridge Avenue, Evanston, IL 60201. Northwestern University is an Affirmative Action/Equal Opportunity Employer. Hiring is contingent upon eligibility to work in the United States. Women and minorities are encouraged to apply.**

NEUROETHOLOGY

The Department of Biology, University of Miami, invites applications for a tenure-track position in neuroethology at the level of **ASSISTANT PROFESSOR**. We are looking for a Neurobiologist who addresses fundamental questions in mechanisms of animal behavior from an evolutionary or functional perspective. Our department has current strength in behavior, ecology, and evolutionary biology. The successful applicant is expected to develop an externally funded research program and to participate in teaching at graduate and undergraduate levels. Ph.D. in biology is required. Postdoctoral experience is preferred. Applicants should send curriculum vitae, appropriate reprints, summary of research and teaching interests, and have three letters of reference sent to: **Dr. Keith D. Waddington, Neuroethology Search, Department of Biology, P.O. Box 249118, University of Miami, Coral Gables, FL 33124. We will begin reviewing applications on December 1, 1998. The University of Miami is an Equal Opportunity/Affirmative Action Employer and smoke/drug-free workplace. Women and minorities are encouraged to apply.**



National Library of Medicine
National Institutes of Health

COMPUTER SCIENTIST

GS-1550-13

INTERNET INFRASTRUCTURE/PERFORMANCE

The Office of Computer and Communications Systems, National Library of Medicine (NLM), National Institutes of Health (NIH), Bethesda, Maryland is recruiting for a senior-level Computer Scientist with expertise in computer and communications with emphasis on the monitoring, evaluation, and scientific research and analysis of the Internet infrastructure and performance needed to support biomedical information systems. The incumbent is expected to provide key research and technical support in the applications, technologies, architectures, and protocols of computer and communications to NLM's domestic and international programs. Applications are invited from persons meeting the education and experience requirements for the Computer Scientist job series, which requires a college degree with at least 30 semester hours in a combination of mathematics, statistics, and computer science, 15 semester hours of which must have been in any combination of statistics and mathematics that included differential and integral calculus; and at least one year of specialized experience equivalent to the next lower grade level. Specialized experience is defined as planning and implementing the monitoring, evaluation, and scientific research and analysis of end-to-end Internet performance of network pathways in domestic and foreign locations; analyzing and diagnosing the computer and communications infrastructure needed to support Internet connectivity and access to biomedical information in varied regions of the world, including rural and underdeveloped areas; designing and developing computer and communications infrastructure, architecture, and systems; developing applications using the TCP/IP suite of Internet Protocols and advanced programming languages (C/C++, Perl, and UNIX shell) in Solaris and Windows NT operating systems and on Intel and high-end workstations; and technical management and coordination of international electronic biomedical information services that involve biomedical information institutions. Applicants must also have experience in collaborative relationships and projects with varied partners, including domestic and international partners, involving remote access to electronic biomedical information; and experience in writing scientific and technical materials on Internet infrastructure and performance.

The position is located in Bethesda, Maryland at the GS-13 level with a salary range of \$55,969-\$72,758 per annum, depending on experience and qualifications.

All applications must be received at NLM by close of business November 16, 1998. For further information, please contact **Susan Burns** at (301) 496-4943. Send curriculum vitae, college transcripts, a detailed description of past activities, and three letters of recommendation to **Susan Burns, National Library of Medicine Personnel Office, National Institutes of Health, Building 38, Room 2N05, 8600 Rockville Pike, Bethesda, MD 20894.**

NIH is an Equal Opportunity Employer.

Purdue University Walther Professor of Nutrition and Cancer

The Department of Foods and Nutrition at Purdue University, in collaboration with the NCI-funded Purdue Cancer Center, and with the support of the Walther Cancer Institute, is seeking a nationally recognized scientist to fill a new position in the area of nutrition and cancer. The position offers an opportunity to expand a strong research program through collaborations with more than 100 campus scientists currently engaged in basic cancer research, who possess expertise in biological, biochemical, and chemical sciences, engineering, pharmacology, veterinary medicine, and nutrition. The successful candidate is expected to qualify for the rank of **FULL PROFESSOR**. He/she will have a Ph.D., D.V.M., or M.D. degree with a distinguished track record in research. Teaching experience is also desirable. There are no clinical practice responsibilities. A highly competitive salary and benefits package is available. An application should include a description of current and planned research and scholarly activities, three reprints, curriculum vitae, and three references. Applications will be reviewed until the position is filled. Send materials to: **Richard Mattes, Ph.D., Purdue University, Dept. of Foods and Nutrition, West Lafayette, IN 47907-1264.** *Purdue is an Equal Opportunity, Affirmative Action Employer.*

Biogen has established a unique record of success as one of the world's premier biotechnology companies. Pioneering research by our scientists has led to the introduction of several important new medical therapies, including AVONEX® (Interferon beta-1a), the most prescribed therapy in the U.S. for relapsing forms of multiple sclerosis. We are staking our future growth on the development of our next generation of pharmaceutical products, five of which are currently being tested in human clinical trials. Today, we are seeking the following committed professional to join our expanding team in Cambridge.



DEFINING SUCCESS in BIOTECHNOLOGY

RESEARCH SCIENTIST GENE THERAPY

We are adding additional resources to our internal gene therapy program. This scientist will design experiments, generate gene therapy vectors and conduct disease modeling experiments. The successful candidate may be working on multiple gene therapy projects, of which the principal one will be interferon-beta gene therapy. Requirements include a Ph.D. with at least 2 years' post-doctoral research experience and proven expertise in molecular and cellular biology. Experience working with viral gene therapy vectors is highly desirable.

Biogen has an outstanding record of leadership and accomplishment in the biotechnology field. We have one of the strongest financial profiles in the industry, and our compensation and benefits package, including equity participation, is unmatched. We've created an environment designed to attract and retain the world's most accomplished talent, and we invite you to forward your resume, to the following address. This position is based in our Cambridge facility. Biogen, Inc., Dept. RCRS, Resume Processing Center, P.O. Box 708, Burlington, MA 01803; Fax: (617) 679-2546; E-mail: biogen@webhire.com Biogen is an Equal Opportunity Employer.

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POSITIONS OPEN

FOUR TENURE-TRACK BIOLOGISTS

The Department of Natural Sciences at the University of North Florida invites applications for four tenure-track biology positions beginning August 1999. **FULL PROFESSOR** (one position): requires a Ph.D. in biology and a strong record of excellence in teaching, research, and grantsmanship. Ability to help and guide junior faculty by example is highly valued. **ASSISTANT PROFESSOR** (three positions): requires a Ph.D. in biology. Must demonstrate a strong commitment to undergraduate teaching and the ability to conduct meaningful research involving undergraduates. Postdoctoral experience and the ability to procure external funding are valued assets. All candidates should be able to teach introductory biology and upper-division courses in their area of specialization. The department seeks individuals in the following four areas: (i) physiology: ability to teach anatomy and physiology, pathophysiology, and/or human biology; (ii) microbiology: ability to teach microbiology and immunology; (iii) genetics: ability to teach genetics and developmental biology; (iv) marine or coastal biology: ability to teach marine biology, invertebrate biology, and/or limnology. Applications will be accepted at the Assistant and Full Professor levels for each specialty, but only one position will be filled at the Full Professor level. A letter of application indicating the position applied for (specialty and level), curriculum vitae, concise statements of teaching and research interests, undergraduate and graduate transcripts, and three letters of reference should be sent to: **Biology Search Committee, Department of Natural Sciences, University of North Florida, Jacksonville, FL 32224-2645** by postmark deadline December 4, 1998. *UNF is an Equal Opportunity/Equal Access/Affirmative Action Institution. Individuals who need reasonable accommodations to participate in the application/selection process must notify the Search Committee at the address listed above (or Telephone: 904-620-2830) a minimum of five (5) working days in advance of the interview.*

MOLECULAR GENETICIST/ MOLECULAR BIOLOGIST ASSISTANT/ASSOCIATE/FULL PROFESSOR

As part of an expansion in Cancer Research, Creighton University School of Medicine invites applications for a tenure-track position. All applicants must have a Ph.D. and/or M.D. degree, postdoctoral research experience, and a strong record of research accomplishments. The position is available now. The appointee is expected to conduct a vigorous, independent, extramurally funded, hereditary cancer genetics research program and to have an interest and aptitude for teaching and training students and Fellows. An interest and ability to collaborate with **Henry T. Lynch, M.D.**, on some ongoing projects related to discovering germ-line mutations in cancer-prone families is essential. The appointment could be in one or more departments depending on the interest and background of the applicant. Laboratory space with equipment and start-up funding will be available. Applicants should send a curriculum vitae, a brief summary of research plans and teaching interests, and arrange to have at least three letters of recommendation sent to: **The Search Committee Chair, c/o Shirley Spain, Creighton University, 2500 California Plaza, Omaha, NE 68178-0409**. Applications will be screened immediately and will continue to be accepted until the position is filled. *Creighton University is an Affirmative Action/Equal Opportunity Employer.*

PLANT BIOLOGIST. Tenure-track **ASSISTANT PROFESSOR** beginning 1 July 1999. Teaching includes a team-taught core course in animal/plant development, and upper-level courses in plant biology. A Ph.D. (by May 1999), excellence in teaching, and development of an active research program in molecular, cellular, or evolutionary approaches to plant development that will involve undergraduates, are essential.

Send statements of teaching and research interests (including descriptions of possible upper-level courses), curriculum vitae, copies of publications, list of relevant courses taught, transcripts, and three letters of recommendation to: **Plant Biologist Search Committee, Department of Biological Sciences, Mount Holyoke College, South Hadley, MA 01075**. E-mail: biology@mtholyoke.edu. Applications received by 15 November 1998 are assured full consideration.

Mount Holyoke College, a liberal arts college for women and a partner in a five-college consortium, is committed to fostering cultural diversity and multicultural awareness among its faculty, students, and staff, and is an Affirmative Action/Equal Opportunity Employer. Women and minorities are especially encouraged to apply.

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR/PHYSICIAN SCIENTIST CHILDHOOD BRAIN TUMORS

Children's Hospital Los Angeles (CHLA) and the University of Southern California (USC) School of Medicine, Department of Pediatrics are seeking an outstanding M.D. or M.D.-Ph.D. Laboratory Investigator, who also is Board-certified/Board-eligible in pediatric hematology-oncology, to perform independent research that will lead to innovative therapy of childhood brain tumors. This is a tenure-track Assistant or Associate Professor position that is sponsored by the Cancer Program of the CHLA Research Institute and by the CHLA Center for Cancer and Blood Diseases. This person will be an integral and interactive member of the Neural Tumors, Cell and Molecular Biology of Cancer, and Developmental Therapeutics Groups who investigate neural tumors, including brain, neuroblastoma, and retinoblastoma. The candidate must have had strong postdoctoral laboratory training (minimum of three years) with peer-review publications in the area of cell and molecular biology of cancer, preferably neural tumors. Proposed research should deal with glial or neuroectodermal tumors, with the ultimate goal of developing new therapeutic strategies based upon laboratory studies of apoptosis or angiogenesis. The individual will be expected to devote 70 percent effort to laboratory research, 10 percent to clinical service (neural tumors/autologous stem cell transplant), and 20 percent to teaching. Full salary and laboratory support will be provided for up to three years to enable the individual to obtain national peer-reviewed funding. Substantial long-term support will be available to enhance the individual's peer-reviewed support for research in childhood brain tumors. Send curriculum vitae and list of three references to: **Dr. Robert C. Seeger, Division of Hematology-Oncology, Children's Hospital Los Angeles, 4650 Sunset Boulevard, Los Angeles, CA 90027**. *CHLA and USC are Equal Opportunity/Affirmative Action Employers. Women and minorities are encouraged to apply.*

ASSISTANT PROFESSOR HARVARD UNIVERSITY MOLECULAR AND CELLULAR BIOLOGY

The Department of Molecular and Cellular Biology (MCB) is seeking outstanding candidates for the position of Assistant Professor (entry-level appointment). Our department covers a broad range of topics including cellular biology, developmental biology, molecular biology, molecular evolution, molecular genetics, neurobiology, and structural biology. We are particularly interested in candidates working in the following areas: neurobiology; cell biological and evolutionary approaches to development; structural biology; genomics; and molecular approaches to understanding gene function. Applications should include curriculum vitae, reprints of publications, and a statement of present and future research plans (one to three pages). Complete applications and three letters of recommendation, solicited by the applicant, should be received no later than November 16, 1998. Mail applications to: **Department of Molecular and Cellular Biology Search Committee, Harvard University, 7 Divinity Avenue, Cambridge, MA 02138**. *Harvard University is an Affirmative Action/Equal Opportunity Employer. We strongly encourage applications from women and minority candidates.*

ASSISTANT/ASSOCIATE PROFESSORS VIROLOGY AND IMMUNOLOGY TWO POSITIONS

As part of an ongoing rebuilding program in virology and immunology, the Creighton University School of Medicine's Department of Medical Microbiology and Immunology invites applications for two tenure-track positions. The positions are available now and should be filled by July 1, 1999. The appointees are expected to conduct a vigorous independent research program and to have an interest and aptitude for teaching graduate students as well as medical, dental, and other allied health profession students. Laboratory space with equipment and start-up funding will be available. Applicants should send a curriculum vitae, a brief summary of research plans and teaching interests, and arrange to have at least three letters of recommendation sent to: **Roderick Nairn, Ph.D., Search Committee Chair, Department of Medical Microbiology and Immunology, Creighton University, 2500 California Plaza, Omaha, NE 68178**. Applications will begin to be screened immediately and will continue to be accepted until the positions are filled. *Creighton University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

TENURE-TRACK POSITION IN CELL/MOLECULAR BIOLOGY

The State University of New York at Buffalo invites applications for a tenure-track **ASSISTANT** or **ASSOCIATE PROFESSOR** position in cell/molecular biology related to areas such as cell differentiation, receptor/growth factor signaling mechanisms, or tissue regeneration/engineering. Joint appointment in the biological science departments in the Schools of Dental Medicine, Natural Sciences, and Medicine may be appropriate. He/she will be expected to establish or continue independent and collaborative research programs, participate in teaching professional and graduate students, and serve as a mentor in our active Ph.D. programs. Participation in ongoing collaborations among Dental, Natural Sciences, Medical, Engineering, Pharmacy Schools, and Roswell Park Cancer Institute faculty as well as members of the Cell and Molecular Biological Institute will be strongly supported.

Requirements for Assistant Professor include a Ph.D., D.D.S., M.D., or other Doctoral degree in an appropriate field, and at least two years of postdoctoral experience resulting in publication in peer-reviewed journals. Associate Professor (tenured) may be appropriate for candidates with significant contributions to published research, continued external research funding, and professional distinction in teaching, mentoring, and service. Appointment to these ranks requires meeting standards established by SUNY at Buffalo.

Send a curriculum vitae, copies of important publications, research plans for the near future, and three references to: **Dr. Rosemary Dziak, Cell/Molecular Biology Search Committee, SUNY-Buffalo, 3435 Main Street, Foster Hall, Buffalo, NY 14214-3092**. See our Department website: www.sdm.buffalo.edu/dept.asp?dept=ORB. *SUNY-Buffalo is an Affirmative Action/Equal Opportunity Employer with interest in identifying minority and women candidates.*

ANIMAL PHYSIOLOGIST. Monmouth College, a nationally ranked liberal arts college, seeks applications for a newly created position as tenure-track **ASSISTANT PROFESSOR** in the Biology Department beginning fall 1999. Ph.D. in biology and a strong commitment to undergraduate teaching in a liberal arts setting required. Teaching responsibilities include Life on Earth (biology for non-majors), physiology, and existing or new advanced courses in specialty areas (e.g., microbiology, immunology, or parasitology). Participation in general education courses and supervision of undergraduate research projects are expected. Candidates with interdisciplinary teaching experience and breadth in the major are preferred. Ability to teach courses that complement our environmental science major is desirable (e.g., ecophysiology, toxicology). Send letter of application, curriculum vitae, teaching philosophy, and a list of at least three professional references with telephone numbers to: **Michael McNall, Director of Personnel, Monmouth College, 700 East Broadway, Monmouth, IL 61462**. Please do not send reference letters unless requested. Formal review of applications will begin November 20, 1998, and continue until the position is filled. Applications received by this date will be given full consideration. *Monmouth College is an Equal Opportunity Employer and committed to diversity. We invite and encourage applications from women and minority candidates.*

BIOORGANIC/BIOMEDICAL CHEMISTRY AT THE UNIVERSITY OF CALIFORNIA- SAN FRANCISCO

The Department of Pharmaceutical Chemistry at the University of California-San Francisco (UCSF) invites applications from uniquely qualified Chemists with research interests at the chemistry/biology interface for a tenure-track position at the **ASSISTANT PROFESSOR** level. The position includes membership in the new interdepartmental Graduate Program in Chemical Biology at UCSF. Candidates should have a strong background in organic chemistry, and the ability and desire to use chemical approaches to study contemporary problems in biology. To apply please submit a curriculum vitae, a list of publications, and a brief outline of proposed research projects, and arrange to have three letters of recommendation sent to the Search Committee. The deadline for applications is January 11, 1999. All application materials should be sent to: **Faculty Search Committee, Department of Pharmaceutical Chemistry, University of California, San Francisco, CA 94143-0446**. *Women and candidates from underrepresented groups are particularly encouraged to apply.*

**PRE- AND POSTDOCTORAL POSITIONS
MOLECULAR, CELLULAR, AND BIOCHEMICAL TOXICOLOGY
UNIVERSITY OF WISCONSIN-MADISON**

POSTDOCTORAL POSITIONS AVAILABLE, funded by an NIEHS training grant. Topic areas include regulation of gene expression (toxicant metabolizing enzymes, oncogenes, DNA repair enzymes); toxicant activation; toxicity in developing organisms; mechanisms of carcinogenesis; action of toxicants on liver, kidney, gonadal, immune cells. Time will be allocated for training in Toxicology and Molecular and Cellular Biology as appropriate. Collaborative projects involving more than one laboratory are encouraged. *Applicants must be U.S. citizens or permanent residents* and should send a curriculum vitae, three references (addresses/telephone), and a letter stating research interests to: **Dr. Colin R. Jefcoate**, Director, Environmental Toxicology Center Training Grant, at the address listed below. Deadline for applications: December 1, 1998.

PREDOCTORAL POSITIONS AVAILABLE, funded by an NIEHS training grant, for students who have completed at least one semester in the graduate program of the Environmental Toxicology Center. *Predoctoral trainees must be U.S. citizens or permanent residents*. Research and graduate training at the Environmental Toxicology Center emphasizes mechanistic approaches using the most recent concepts in biology combined with "cutting-edge" techniques for analysis and visualization. The NIEHS Center for Developmental and Molecular Toxicology, which is a sister center on campus, provides facilities for specialized, practical training in techniques of embryology, histology, advanced microscopy, molecular biology, and cellular markers of toxicity. If you are interested in applying to the graduate program, request an application from the Environmental Toxicology Center at the address listed below. Deadline for fellowship consideration: January 15, 1999. Applications will be accepted until March 1, 1999.

TRAINERS (research interests available at <http://www.wisc.edu/etc/faculty.html>)

Developmental Toxicology

Margaret Clagett-Dame, Pharmacy (also Retinoid Receptors)
Richard E. Peterson, Pharmacy (also Receptors)
Eric P. Sandgren, Pathobiological Sciences
Susan M. Smith, Nutritional Sciences (also Receptors)

Carcinogenesis and Toxicogenetics

Michael N. Gould, Oncology
Tomas A. Prolla, Medical Genetics

Immunotoxicology

Ralph M. Albrecht, Animal Health & Biomedical Sciences
Mark E. Cook, Animal Sciences
Charles J. Czuprynski, Pathobiological Sciences

Nuclear Receptors

Lynn B. Allen-Hoffmann, Pathology
Christopher A. Bradfield, Oncology

Regulation of Metabolism

Adnan E. Elfarra, Comparative Biosciences
Colin R. Jefcoate, Pharmacology (also Receptors and Cancer)
Charles B. Kasper, Oncology

Protection Mechanisms

William E. Fahl, Oncology
Timothy R. Mulcahy, Human Oncology
James W. Tracy, Comparative Biosciences

Environmental Toxicology Center, B157 Steenbock Library, 550 Babcock Drive, Madison, WI 53706. Telephone: (608) 263-4580. Fax: (608) 262-5245. E-mail: uwetox@facstaff.wisc.edu. The University of Wisconsin-Madison provides Equal Opportunities for Admission and Employment.



**IMMUNOLOGY/PARASITOLOGY
OAKLAND UNIVERSITY
BIOLOGICAL SCIENCES**

Applications are invited for a **TENURE-TRACK** position in either immunology or parasitology at the Assistant Professor level starting **August 15, 1999**.

Candidates must have a demonstrated record of excellence in research using state-of-the-art techniques and a potential for excellence in teaching. Start-up funds and laboratory space are available for establishing a vigorous research program. A Ph.D. and postdoctoral experience are required.

Oakland University is a state-supported institution situated on a 1,400-acre campus 25 miles north of Detroit. The Department of Biological Sciences is a well-equipped, research-oriented department in the College of Arts and Sciences. The successful applicant will be expected to develop and maintain an independently funded research program with biomedical applications. Teaching responsibilities include a course each in immunology and in medical parasitology. The selected candidate is expected to participate in the departmental Master's degree program and an interdisciplinary doctoral program in Biomedical Sciences.

Applicants should submit curriculum vitae, a statement of research plans and teaching philosophy, key reprints, and names of at least three references before **January 4, 1999**, to:

**Search Committee
Department of Biological Sciences
Oakland University
Rochester, MI 48309-4476**

Oakland University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minorities.



**Harvard Medical School
Department of Pathology**

The Department of Pathology at Harvard Medical School seeks well-qualified (Ph.D., M.D.-Ph.D., or M.D.) applicants for a tenure-track position at the Assistant or Associate Professor level with research interests in the area of Cancer Biology.

To expand and further strengthen its basic research program in Cancer Biology, the Pathology Department is recruiting an outstanding candidate who has completed three to five years of relevant postdoctoral or independent research and who has the capability of directing a rigorous independent research program in an area relevant to cancer biology such as cell cycle control, cancer genetics, tumor suppressor genes, signal transduction, or genomic instability.

Candidates are expected to participate in the teaching activities of the Department for medical students, graduate students, and postdoctoral fellows. Recently renovated laboratory research space and an attractive start-up support package are available for this position. Applicants should send their curriculum vitae, a statement of research interests, and the names of three references to:

**Dr. Peter M. Howley
Department of Pathology
Harvard Medical School
Building D2, 6th Floor
200 Longwood Avenue
Boston, MA 02115**

Harvard Medical School is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

POSITIONS OPEN

Colby College is seeking a **PLANT EVOLUTION-ARY BIOLOGIST** to fill a tenure-track position as **ASSISTANT PROFESSOR** of biology to begin September 1999. A strong background in plant systematics is expected. Candidates should have a Ph.D. and a strong commitment to undergraduate education. Teaching normally involves three courses with laboratory each year. The successful candidate will teach evolution and an upper-level plant course each year, and a third course, which in some years will be the team-taught introductory course. An active research program, including supervision of undergraduate research, will be expected. An attractive start-up package is available. Familiarity with liberal arts colleges, teaching experience, or postdoctoral experience are desirable.

Women candidates will be considered for a Clare Booth Luce Assistant Professorship, which provides dedicated annual research funds and stipends for undergraduate Research Assistants.

Please submit a letter of application, statement of teaching and research interests, curriculum vitae, reprints of three selected publications, undergraduate and graduate transcripts, and three letters of recommendation to: **Professor W. Herbert Wilson, Jr., Associate Chair, Department of Biology, Colby College, 5739 Mayflower Hill Drive, Waterville, ME 04901. Telephone: 207-872-3432; e-mail: whwilson@colby.edu.** Application review will begin November 16, 1998, and will continue until the position is filled. For more information about the College, please see the Colby website: <http://www.colby.edu>. Colby College is an Affirmative Action/Equal Opportunity Employer, and encourages applications from minorities and women.

RESEARCH FELLOW IN TROPICAL FOREST SCIENCE

At the Center for International Development (CID) of the Kennedy School of Government and the Harvard University Herbaria (Arnold Arboretum (AA)) at Harvard University.

CID pursues long-term research on issues relevant to policy reform, and offers Master's and Doctoral programs in international development. An interdisciplinary program in tropical forest research aimed at sustainable forestry including forest conservation exists in Asia in collaboration with Harvard's Arnold Arboretum and the Center for Tropical Forest Science (CTFS) of the Smithsonian Tropical Research Institute.

A young Postdoctoral Plant Scientist is sought with at least five years of experience, including field experience, and a strong record of published research and funding, in the systematics and ecology of the trees and forests of the Asian tropics. The appointee will conduct and promote research relevant to the CID program; act as a representative for CTFS, and interact with students and researchers in Harvard, CTFS, and in Asia; teach at the Harvard Herbaria and/or CID; and assist CTFS staff in preparing grant proposals.

Application should be sent, with a curriculum vitae and four letters of reference, two of which must be from scientists domiciled in Asia, to: **Professor Peter Ashton, the Arnold Arboretum of Harvard University, 22 Divinity Avenue, Cambridge, MA 02138. E-mail: pashton@hiid.harvard.edu.**

CONSERVATION GENETICIST

The Department of Biological Sciences at Bowling Green State University invites applications for a tenure-track **ASSISTANT PROFESSOR** position in conservation genetics beginning August 1999. Applicants are expected to have a Ph.D., postdoctoral experience, and have conducted research in population genetics as applied to conservation biology. The successful candidate will also be expected to develop an extramurally funded research program and teach at both the graduate (M.S., Ph.D.) and undergraduate levels. The Ecology Group (11 faculty) graduate program emphasizes aquatic ecology and conservation biology. Further information about the Department and position can be found at website: <http://www.bgsu.edu/departments/biology/ecology>. Applicants should send a curriculum vitae, statement of research plans and teaching interests, representative reprints, and three letters of reference by November 16, 1998, to: **Helen Michaels, Conservation Genetics Search, Department of Biological Sciences, Bowling Green State University, Bowling Green, OH 43403-0212. BGSU is an Affirmative Action/Equal Employment Opportunity Employer and encourages applications from women, minorities, veterans, and persons with disability.**

POSITIONS OPEN

ASSISTANT PROFESSOR COMMUNITY/LANDSCAPE ECOLOGY SCHOOL OF INTEGRATIVE BIOLOGY University of Illinois at Urbana-Champaign

Candidates are invited to apply for a full-time tenure-track position at the rank of Assistant Professor in community/landscape ecology. The position starts in August 1999. We seek and will give preference to Ecologists whose research focuses on the interaction between humans and "natural" communities in the tropics. This position is being funded in part by the International Council of the University of Illinois. The successful applicant should have a Ph.D. degree and postdoctoral research experience. Responsibilities include teaching in undergraduate courses, teaching an advanced-level course in community/landscape ecology, and maintaining a creative, vigorous, and independently funded research program. The applicant is expected to interact closely with other Ecologists and Biologists and to participate in campus-wide initiatives in international programs and environmental studies. Salary will be commensurate with experience. To ensure full consideration applications should be received by November 27, 1998. Applicants should submit a curriculum vitae, statements of research and teaching interests, and the names, addresses, and telephone numbers for four references to: **Dr. Carol K. Augspurger, Chairperson, Faculty Search Committee, School of Integrative Biology, University of Illinois, 286 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801. Telephone: 217-333-3044; FAX: 217-244-1224. The University of Illinois is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are encouraged to apply.**

POSITIONS IN MOLECULAR IMMUNOLOGY

The University of Maryland Greenebaum Cancer Center is expanding its translational research involving immunotherapy of multiple myeloma, prostate cancer, and other malignancies. We wish to recruit individuals at the **ASSISTANT or ASSOCIATE PROFESSOR** level (Ph.D. or D.V.M.) with a background in molecular biology, protein biochemistry, and human cellular immunology. Individuals with interests in tumor antigen discovery and characterization and/or a background in genomics with an emphasis in mutational analysis are strongly encouraged to apply. The ideal candidates will have a record of extramurally funded research. The Cancer Center and the University are expanding sophisticated clinical and laboratory programs that incorporate molecular genetics, gene therapy, experimental hematology, drug resistance, and immunobiology, and have focused these programs on translational oncology research. We invite dynamic Investigators to join our efforts to develop and test novel cancer treatments. Salary commensurate with experience. Interested applicants should submit their curriculum vitae to: **Dean L. Mann, M.D., Professor, Greenebaum Cancer Center, N9E25, University of Maryland Medicine, 22 South Greene Street, Baltimore, MD 21201. The University of Maryland, Baltimore encourages women and minorities to apply and is an Affirmative Action/Equal Employment Opportunity/ADA Employer.**

UNIVERSITY OF CALIFORNIA-DAVIS CHEMICAL ECOLOGIST

The Department of Entomology seeks applicants for an **ASSISTANT/ASSOCIATE PROFESSOR** (40 percent teaching) and **ASSISTANT/ASSOCIATE ENTOMOLOGIST** (60 percent research). The appointee will organize and present undergraduate/graduate courses, supervise graduate students, participate in curricular development, outreach programs, and perform University service.

Ph.D. in a biological or chemical science, training and experience in chemical ecology. Background in any of the following desirable, but not required: entomology, plant and/or arthropod physiology, or plant biochemistry.

This academic-year, tenure-track, fiscal-year-term position is available April 1, 1999. Send letter of application, curriculum vitae, brief statement of teaching, research, and career goals, transcripts (if within five years of graduation), reprints, and names, addresses, and telephone numbers of three referees to: **Richard Karban, Chemical Ecology Search Committee, Department of Entomology, University of California, One Shields Avenue, Davis, CA 95616. Open until filled, but to ensure consideration submit by December 1, 1998.**

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

POSITIONS OPEN

Colby College is seeking an **ANIMAL BEHAVIOR-IST** to fill a tenure-track position as **ASSISTANT PROFESSOR** of biology to begin September 1999. A strong background in terrestrial vertebrate physiology is expected. Candidates should have a Ph.D. and a strong commitment to undergraduate education. Teaching normally involves three courses with laboratory per year. The successful candidate will teach animal behavior and mammalian anatomy and physiology each year, and a third course, which in some years will be the team-taught introductory course. An active research program, including the supervision of undergraduate research, will be expected. An attractive start-up package is available. Familiarity with liberal arts colleges, teaching experience, or postdoctoral experience are desirable.

Women candidates will be considered for a Clare Booth Luce Assistant Professorship, which provides dedicated annual research funds and stipends for undergraduate Research Assistants.

Please submit a letter of application, statement of teaching and research interests, curriculum vitae, reprints of three selected publications, undergraduate and graduate transcripts, and three letters of recommendation to: **Professor W. Herbert Wilson, Jr., Associate Chair, Department of Biology, Colby College, 5739 Mayflower Hill Drive, Waterville, ME 04901. Telephone: 207-872-3432; e-mail: whwilson@colby.edu.** For more information about the College, please see the Colby website: <http://www.colby.edu>. Application review will begin November 16, 1998, and will continue until the position is filled. Colby College is an Affirmative Action/Equal Opportunity Employer, and encourages applications from minorities and women.

CELL/MOLECULAR BIOLOGIST ASSISTANT PROFESSOR

Applications are invited for a tenure-track position in the Department of Biological Sciences within the Columbian School of Arts and Sciences, the liberal arts college of The George Washington University. Responsibilities include establishing an extramurally supported research program, involving graduates and undergraduates in an area of cell/molecular biology that complements existing strengths of the department: comparative immunology, developmental genetics, membrane transport, signaling, or receptor functions; and teaching undergraduate and graduate courses in cell/molecular biology. Starting date August 1, 1999; review of applications begins October 20, 1998, and continues until the position is filled. Please send a letter of application that includes a statement of research plans, a description of courses you are prepared to teach, a curriculum vitae, up to three reprints, and at least three letters of reference to:

**Chair of the Search Committee
Department of Biological Sciences
Lisner Hall 340**

**The George Washington University
Washington, DC 20052**

E-mail: biology@gwu.edu

Website: <http://www.gwu.edu/~biology/>

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

ASSISTANT/ASSOCIATE PROFESSOR UNIVERSITY OF COLORADO SCHOOL OF MEDICINE Department of Pharmacology

Applications are invited for a tenure-track faculty position in the Department of Pharmacology. The individual recruited would ideally complement some of the current research strengths of the department in signal transduction, neuropharmacology, substance abuse, and biomolecular structure. Information about the department may be obtained at the website: <http://porsche.uchsc.edu/pharm/>.

Applicants must have a Ph.D. or M.D. degree, the potential to develop a vigorous research program with significant extramural funding, and a commitment to teaching medical and graduate students.

Review of applications will begin November 15, 1998, and will continue until the position is filled.

Submit a curriculum vitae, the names of three references, and a statement of current and future research interests to: **Dr. Dermot M. F. Cooper, Chair, Search Committee, Department of Pharmacology, University of Colorado Health Sciences Center, Box C236, 4200 East Ninth Avenue, Denver, CO 80262.**

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New York University FACULTY POSITION NEURAL SCIENCE

The Center for Neural Science of New York University invites applications for a tenure-track faculty position, rank open, from candidates with interests in learning, memory, and plasticity. The appointment will begin September 1, 1999, pending final administrative and budgetary approval, and may be at any level. Please send a curriculum vitae, a statement of current research and teaching interests, copies of recent relevant publications, and the names and addresses of three or more individuals willing to provide letters of reference to: **Professor Dan Sanes, Center for Neural Science, New York University, 4 Washington Place, Room 809, New York, NY 10003.**

NYU encourages applications from women and members of minority groups.

CALIFORNIA INSTITUTE OF TECHNOLOGY FACULTY POSITION STRUCTURAL BIOLOGY OF SUPRAMOLECULAR ASSEMBLAGES

We invite applications for a tenure-track professorial position in the Division of Biology at the California Institute of Technology. The successful applicant is expected to develop innovative research programs that investigate the three-dimensional structures of macromolecular complexes using electron cryomicroscopy and to be committed to high-quality teaching. Preference will be given to candidates at the Assistant Professor level; however, consideration will also be given to more senior applicants. Appointment is contingent upon completion of Ph.D. For non-tenured positions, the initial term of appointment is normally four years. Applicants should submit a curriculum vitae, list of publications, and a brief statement of research interests and teaching experience. In addition, the candidate should arrange to have three letters of reference sent to the search committee to coincide with receipt of the application. *Caltech is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.* All materials should be sent to: **Pamela Bjorkman, Supramolecular Structure Search Committee, Division of Biology 156-29, California Institute of Technology, Pasadena, CA 91125 USA.**

POSITIONS OPEN

ASSISTANT PROFESSOR IN NEUROBIOLOGY BOSTON UNIVERSITY

The Biology Department invites applications from outstanding candidates for a tenure-track appointment at the Assistant Professor level. We seek a colleague who uses modern cellular, molecular, or neurophysiological approaches to address neurobiological questions from a systems perspective. He/she will join a Biology Department with existing research strengths in the areas of synaptic structure and function, neural development and plasticity, sensory systems, neuroethology, and neuroendocrinology. Newly renovated facilities and an attractive start-up package are offered. Responsibilities will include establishing a research program with extramural funding and active participation in undergraduate and graduate teaching. Please submit by December 15, 1998, a curriculum vitae, a statement of research and teaching interests, representative reprints, and names of three referees (with e-mail addresses) to: **Dr. Michael J. Baum, Neurobiology Search Committee, Department of Biology, Boston University, 5 Cummings Street, Boston, MA 02215.** For information about the Biology Department and Neuroscience Programs at Boston University see our website: <http://bio.bu.edu/>.

Boston University is an Equal Opportunity/Affirmative Action Employer.

PROFESSOR OF DEVELOPMENTAL/ CELL BIOLOGY

The Department of Anatomy and Cell Biology at the University of Kansas Medical Center invites applications for a tenure-track **ASSISTANT PROFESSOR** faculty position. We seek outstanding candidates with postdoctoral experience who can establish an externally funded research program, and are particularly interested in those working on molecular and cellular aspects of developmental biology. Candidates will be expected to participate in team-taught courses for graduate/medical students. An extremely attractive start-up package is available. Applicants should submit a curriculum vitae, concise statement of research plans, and names of three references, by December 15, 1998, to: **Dale R. Abrahamson, Ph.D., Professor and Chair, Department of Anatomy and Cell Biology, The University of Kansas Medical Center, 3901 Rainbow Boulevard, Kansas City, KS 66160-7400.**

The Department of Biology is seeking applications for a tenure-track appointment beginning August 1999 at the **ASSISTANT PROFESSOR** level in eukaryotic cell biology. Applicants should have a research program in animal, plant, protist, or fungal systems exploring basic cellular functions such as cell cycle control, cytoskeletal organization, or protein trafficking. Start-up funds and excellent laboratory facilities are available. The successful applicant will be expected to teach introductory biology as well as courses at the intermediate and advanced undergraduate level in his or her discipline and to involve undergraduates in his or her research. Ph.D. required; postdoctoral and teaching experience are desirable. Submit résumé, a statement on research and teaching interests and experience, and three letters of reference to: **Leathem Mehaffey, III, Chair of Biology, Vassar College, 124 Raymond Avenue, Box 731, Poughkeepsie, NY 12604.** E-mail: mehaffey@vaxsar.vassar.edu by November 30, 1998. *Vassar College is an Affirmative Action/Equal Opportunity Employer.*

Bucknell University seeks outstanding candidates for an entry-level, tenure-track position at the rank of **ASSISTANT PROFESSOR**. The successful applicant will be expected to develop a research program in biophysical chemistry involving undergraduates and Master's students. Teaching will involve physical or biophysical chemistry and sophomore-level inorganic chemistry, biochemistry, or general chemistry. Ph.D. required; postdoctoral experience preferred. Applicants should send a curriculum vitae, summary of research and teaching interests, and three letters of recommendation to: **Professor Brian Williams, Chair of the Biophysical Chemistry Search Committee, Department of Chemistry, Bucknell University, Lewisburg, PA 17837** by November 13, 1998. *Bucknell University encourages applications from women and members of minority groups. Equal Employment Opportunity/Affirmative Action.*

POSITIONS OPEN

QUANTITATIVE APPROACHES IN NATURAL RESOURCES THE UNIVERSITY OF MICHIGAN

The School of Natural Resources and Environment invites applications from individuals with demonstrated scholarship in quantitative approaches to natural resources and ecosystem management. We seek to fill two **TENURE-TRACK POSITIONS**, rank open, with individuals whose research interests encompass one or more of the following quantitative areas: biometrics, applied statistics, ecological modeling, remote sensing, and Geographic Information Systems (GIS). A Doctoral degree is required. Preference will be given to candidates with a research focus on terrestrial ecosystems, with practical experience including field-based research, and with interests that span a variety of spatial scales. The successful candidates will establish rigorous research programs, teach at the undergraduate and graduate level, and be expected to interact with students and faculty with diverse interests in natural resource subject areas. A more detailed description of the position and the School can be found at website: www.snre.umich.edu.

Candidates should submit a statement of research and teaching interests, résumé, a representative example of their scholarly work, and the names, addresses including e-mail, and telephone numbers of three references to: **Quantitative Search Committee, School of Natural Resources and Environment, The University of Michigan, Dana Building, 430 East University, Ann Arbor, MI 48109-1115.** Review of applications will begin 1 December 1998. For further information contact: **David Allan, Telephone: 734-764-6553; e-mail: dallan@umich.edu.**

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

MEDICAL ONCOLOGIST/ MEDICAL GENETICIST ASSISTANT/ASSOCIATE/FULL PROFESSOR

As part of an expansion in Cancer Research, Creighton University School of Medicine invites applications for a tenure-track position in hereditary cancer research. All applicants must have an M.D. and/or Ph.D. degree, postdoctoral experience, and a strong record of research accomplishment. The position is available now. An interest and ability to collaborate with **Henry T. Lynch, M.D.**, on an extensive resource of cancer-prone families with well-developed extended pedigrees is essential. The appointee is expected to conduct a vigorous, independent, extramurally funded hereditary cancer genetics research program, and to have a clinical practice in medical oncology, and to teach and train students and Fellows. A primary appointment in the Department of Preventive Medicine and a joint appointment in one or more clinical or basic science departments is anticipated. Laboratory space with equipment and start-up funding will be available. Applicants should send a curriculum vitae, a brief summary of research plans and teaching interests, and arrange to have at least three letters of reference sent to: **The Search Committee Chair, c/o Paula Hills, Creighton University School of Medicine, 2500 California Plaza, Omaha, NE 68178-0404.** Applications will begin to be screened immediately and will continue to be accepted until the position is filled. *Creighton University is an Affirmative Action/Equal Opportunity Employer.*

The Department of Anatomy at the University of Mississippi Medical Center (website: <http://fiona.umsmed.edu/~anatomy>) has openings for two tenure-track faculty positions at the rank of **ASSISTANT PROFESSOR** or **HIGHER**. Position One primarily has teaching responsibility in gross/developmental anatomy and histology. In addition, every opportunity will exist for the successful candidate to engage in scholarly activity. Position Two requires significant research/funding potential to complement existing departmental strengths including motor systems neuroscience, cellular neuroscience, and cardiovascular cell biology, as described on the website. Teaching duties for this position will be in one core course. Applicants should indicate which position they are applying for, and should send a curriculum vitae, a description of scholarly or research activities and teaching qualifications, and arrange to have three letters of recommendation forwarded to: **Chair, Anatomy Department Search Committee, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505.** Review of applications will begin November 16, 1998. *The University of Mississippi Medical Center is an Equal Opportunity Employer. Minorities/Females/Disabled/Veterans.*

POSITIONS OPEN

MOLECULAR MICROBIOLOGIST NEUROBIOLOGIST

The Department of Biology and Microbiology at California State University, Los Angeles will fill two tenure-track positions at the **ASSISTANT PROFESSOR** level beginning September 1999. The successful candidates will be expected to teach undergraduate and graduate courses as well as establish a strong research program capable of attracting extramural funding. Start-up funds are available. Ph.D. required. College-level teaching and postdoctoral research experience preferred.

Molecular Microbiologist. Research interest in molecular microbial pathogenesis. The candidate will be expected to teach general medical microbiology and elective courses in an evolving broad-based microbiology curriculum.

Neurobiologist. A strong academic and research background in modern neurobiology with the ability to teach courses in neuroanatomy and cell biology. Academic and/or research background in biological aspects of aging desired but not required.

Positions open until filled. Review of completed applications will begin December 10, 1998. Submit curriculum vitae, three letters of reference, and a letter describing your research plans and teaching philosophy to: **Dr. Richard Fleming (Microbiologist position) or Dr. Alan Muchlinski (Neurobiologist position), Department of Biology and Microbiology, California State University, Los Angeles, CA 90032.**

An Equal Opportunity/Title IX Employer. Reasonable accommodation may be requested.

Eastern Michigan University Department of Chemistry invites applications for a tenure-track **ASSISTANT PROFESSOR** position in either organic chemistry or chemical education beginning fall 1999. Qualifications include doctorate with appropriate specialization, evidence of ability to teach introductory courses and advanced courses in specialization, commitment to conducting research with undergraduates and Master's students, and strong interpersonal skills. Applicants for the chemical education area should also have significant experience at the high school level and a strong interest in developing programs benefiting K-12 chemistry education and supporting undergraduates interested in science teaching. Department is ACS certified. More information at website: <http://www.emich.edu/public/chemistry/chmhome.htm>. To apply, send curriculum vitae, graduate and undergraduate transcripts, statement of teaching philosophy and experience, description of research plans, and three letters of reference to: **Position F9913, 202 Bowen, Eastern Michigan University, Ypsilanti, MI 48197.** Review of applications will begin December 1, 1999. *Women and members of minority groups are encouraged to apply. Affirmative Action/Equal Opportunity Employer.*

NEUROPHYSIOLOGIST. Bard College invites applications for a full-time, tenure-track position (pending final approval) in neurophysiology at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level starting July 1, 1999. Candidates must have a Ph.D., a strong commitment to undergraduate education, and a willingness to involve undergraduates in an ongoing research program. The successful candidate will be expected to teach a section of the organismal semester of the introductory biology sequence, general physiology, and neurophysiology. In addition, interest in teaching a course for non-science majors is desirable. Start-up funding is available and special consideration will be given to applicants whose research involves invertebrate systems. Applicants should submit a letter of application, curriculum vitae, statements of teaching and research interests, and three letters of recommendation (at least one of which addresses teaching) to: **Prof. Michael Tibbetts, Biology Search Committee Chair, c/o Department of Human Resources, Bard College, P.O. Box 5000, Annandale-on-Hudson, NY 12504-5000.** Applications will be reviewed as received with interviews starting in February 1999. *Bard College is an Affirmative Action/Equal Opportunity Employer.*

Computer science. Tenure-track **ASSISTANT PROFESSOR** beginning January 1999. Will teach 12 hours of computer science. Master of Science in computer science is required. Send résumé, official transcripts, and three letters of recommendation to: **Jimmie Harper, Search Committee Chair, 1100 Henderson Street, Box 7883, Arkadelphia, AR 71999-0001.** Selection process beginning immediately, continuing until filled. *Henderson State University is a COPLAC member and an Affirmative Action/Equal Employment Opportunity/ADA Employer.*

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Up to two ASSISTANT PROFESSOR positions in UCSF's Cardiovascular Research Institute will be offered. Access to graduate programs and a joint appointment in a basic science or clinical department will be provided. Individuals working in vertebrate or invertebrate systems related to cardiovascular biology, including but not limited to angiogenesis, endothelial, smooth muscle, or leukocyte biology, cardiac, vascular, or pulmonary development, or mouse or human genetics related to the cardiovascular system, will be considered. Candidates should hold an M.D. or Ph.D. degree and will be expected to establish a dynamic research program and to actively contribute to CVRI training programs. By December 15, 1998, submit a curriculum vitae, summary of research accomplishments, description of future research plans, major publications, and three to five letters of recommendation to: **Search Committee, CVRI, University of California San Francisco, San Francisco, CA 94143-0130.**

The University of California, San Francisco, is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

COLLEGE OF SAINT BENEDICT SAINT JOHN'S UNIVERSITY BIOCHEMISTRY

The Biology Department of the College of Saint Benedict and St. John's University invites applications for a tenure-track position in Biochemistry to begin September 1999. The successful applicant will be expected to teach an upper-division course in biochemistry (including laboratory), teach introductory biology, participate in our Core curriculum, and teach a course during January Term. Candidates must demonstrate an interest and ability in teaching at the undergraduate level and in helping undergraduates identify and work on their research projects. Ph.D. is required to start. The Biology Department has just moved into a state-of-the-art science facility with new research labs and classrooms.

Saint John's University, a liberal arts college for men, and The College of Saint Benedict, a liberal arts college for women, are coordinate institutions located in central Minnesota lake country, 70 minutes northwest of Minneapolis/St. Paul. Additional information is posted on our website www.csbsju.edu.

Submit a letter of application including a statement of teaching and research interests, curriculum vitae, transcripts, and three recent letters of recommendation to CSB/SJU Director of Human Resources, Saint John's University, Collegeville, MN 56321. Applications received after November 18, 1998, cannot be guaranteed consideration.

Women and people of diverse racial, ethnic, and cultural backgrounds are encouraged to apply. EEO/AA Employers.

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• Cardiovascular Research Scientist

The successful candidate will have a Ph.D. or D.V.M. degree with expertise in cardiovascular physiology or pharmacology. Experience with acute and chronic models of cardiac reperfusion injury, heart failure and/or arrhythmia is essential. Post-doctoral experience in a cardiovascular discipline is desirable. The primary role of this individual will be to conduct research as part of a multifunctional cardiovascular drug discovery team. Managing independent research projects and research assistants are skills essential for success in this position. Strong written and oral communication skills are also required.

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UNIVERSITY OF CALIFORNIA, DAVIS

Opportunity available for a highly skilled, dedicated, and experienced individual to join a vigorous and growing team of scientists and staff at the UC Davis Murine Targeted Genomics Laboratory. Responsibilities include the creation of genetically altered mice through transgenic pronuclear microinjection, embryonic stem cell injection of blastocysts, aggregation chimerism. Incumbent must have experience in all aspects of a modern transgenic and gene targeting laboratory, including but not limited to procedures involving donor and recipient mice, preparation of injection needles, mouse colony management, and record-keeping. Knowledge of specialized techniques, including embryo cryopreservation, preferred. Incumbent will work as part of a core facility team and interact directly with Principal Investigators and their support staff, visiting scientists, and other technical staff.

Special requirement: must submit a letter of interest and curriculum vitae with application. Apply to **UC Davis Employment Office, TB 122, Davis, CA 95616, VL# 8-2138.** This position is open until filled, but no later than 11/30/98. For required application materials, call (530) 752-1760, TDD (530) 752-7140, or see our website at <http://hr.ucdavis.edu/emp/EOB.htm>.

E.O.E.

POSITIONS OPEN

The Dana-Farber Cancer Institute (DFCI) and the Department of Genetics, Harvard Medical School (HMS) seek candidates for a tenure-track position as **ASSISTANT** or **ASSOCIATE PROFESSOR** of genetics (HMS) and member of the Charles A. Dana Division of Human Cancer Genetics (DFCI).

Candidates for this position should have a strong interest and, ideally, a record of accomplishment in developing links between their research area and the solution of major problems in human cancer genetics. Candidates whose research focuses on functional genomics, development and use of new methodologies for genetic analysis, innovative population genetics, human genetics, complex genetics, or cancer gene discovery will receive special attention. Appropriate space and an attractive start-up package will be made available to the successful candidate, who will be expected to participate fully in the lives of both the Department of Genetics and the DFCI Division.

Applicants should arrange to have three letters of recommendation, a one- to two-page statement of research accomplishments and future plans, and their curriculum vitae sent to: David M. Livingston, M.D., Chairperson, Human Cancer Genetics Search Committee, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.

In order to be considered by the Search Committee, completed applications must be received by December 15, 1998.

Dana-Farber Cancer Institute and Harvard Medical School are Equal Opportunity Employers, and strongly encourages the application of qualified women and minorities.

PLANT PHYSIOLOGICAL ECOLOGIST

The Biology Department at the University of New Mexico is seeking applicants for a full-time tenure-track position at the **ASSISTANT PROFESSOR** level, to begin August 16, 1999, in plant physiological ecology. Minimum requirements: Ph.D. in biology or related discipline. Preferred characteristics: postdoctoral experience; potential for developing an independent, vigorous research program; commitment to excellence in teaching at the introductory undergraduate through graduate level; and ability to work in a broad-based biology department. Competitive salary and start-up funds provided.

Specific information concerning job requirements and applications can be obtained on the website: <http://biology.unm.edu/Welcome.html> or by request to: Plant Physiological Ecology Search Committee, Department of Biology, University of New Mexico, Albuquerque, NM 87131-1091. Telephone: 505-277-3411; FAX: 505-277-0304. Completed applications must be received at the above address by December 15, 1998.

UNM is an Equal Opportunity/Affirmative Action Employer and Educator.

Moravian College invites applications for an tenure-track **ASSISTANT PROFESSOR** position in the Department of Biology beginning August 1999. Applicants must have a Ph.D., some teaching experience, and a commitment to undergraduate education. Candidate should be a broad-based Biologist with a strong background in molecular biology. Teaching assignments will include biochemistry and molecular biology, and may also include developmental biology, microbiology, immunology, or other areas relevant to modern biology. It is expected that faculty are responsible for academic and career advising, as well as professional development appropriate for an undergraduate college. Applications received by December 15, 1998, will be assured of full consideration. Please send letter of application, curriculum vitae, statements of teaching and research philosophy, and three letters of reference to: Dr. Donald Hosier, Chair, Department of Biology, Moravian College, 1200 Main Street, Bethlehem, PA 18018-6650. For further information about Moravian, visit our website: www.moravian.edu. *Moravian College is an Equal Opportunity Employer. Women, persons from ethnic and other minorities (and other traditionally underrepresented groups) are strongly encouraged to apply.*

The Department of Physiology and Biophysics at the University of Alabama at Birmingham invites applications for one tenure-track **ASSOCIATE PROFESSOR**. Expertise needed in intracellular signaling, molecular biology, electrophysiology, and confocal and electron microscopy of ion channels. Please send curriculum vitae, statement of research plan, and three letters of recommendation by November 1, 1998, to: Dale J. Benos, Ph.D., 1918 University Boulevard, MCLM 706, Birmingham, AL 35294. *The University of Alabama at Birmingham is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CELL BIOLOGY/SIGNAL TRANSDUCTION

The Department of Cell Biology, Neurobiology, and Anatomy at Loyola University Stritch School of Medicine is accepting applications for a full-time tenure-track position at the **ASSISTANT** or **ASSOCIATE PROFESSOR** level. While the primary area of research interest is signal transduction pathways in immunology or developmental cell biology, other closely related areas will be considered. The successful applicant must demonstrate proven abilities in establishing an extramurally funded research program. Applicants are also expected to have a strong commitment to graduate and medical education. Teaching experience in the biomedical sciences, especially human gross anatomy, is considered a plus. Review of applications will begin on November 16, 1998. A complete curriculum vitae, description of research plans, summary of teaching interests, and three letters of recommendation should be sent to:

John Clancy, Jr., Ph.D.
Department of Cell Biology, Neurobiology,
and Anatomy
Building 102, Room 5653
Loyola University Stritch School of Medicine
2160 South First Avenue
Maywood, IL 60153

Loyola University of Chicago is an Affirmative Action/Equal Opportunity Employer and Educator.

A tenure-track appointment at the **ASSISTANT/ASSOCIATE PROFESSOR** level is available in the Department of Psychology at Boston College in the area of behavioral neuroscience. Candidates should have a Ph.D. and postdoctoral experience. Although we welcome applications in all areas of behavioral neuroscience research, we are particularly interested in (1) neural and hormonal bases of behavior related to fear, stress, or anxiety states in animals; (2) neurobiology of learning and memory in animals. Additionally, we are interested in individuals who integrate developmental and/or molecular neurobiological approaches into their research. The successful candidate will also teach courses at the undergraduate and graduate levels. For more information, see website: http://www.bc.edu/bc_org/avp/cas/psych/psych.html. Send a curriculum vitae, three letters of reference, a statement of research and teaching interests, and representative publications to: Dr. Michael Numan, Search Committee, Department of Psychology, Boston College, McGuinn Hall, 140 Commonwealth Avenue, Chestnut Hill, MA 02467. Review of applications will begin immediately and will conclude once the position is filled. *Equal Opportunity/Affirmative Action Employer.*

The Division of Pulmonary, Allergy, and Critical Care Medicine at Columbia University's College of Physicians and Surgeons is seeking candidates interested in studying lung inflammation or asthma to fill a tenure-track position at the level of **ASSISTANT PROFESSOR** of medicine. Areas of current research in the Division include cytokine signal transduction, TH cell development, IgE regulation, Fc signaling, and phagocytosis. Applicants should have a Ph.D. or M.D. degree and at least two years of postdoctoral research experience, and are expected to be able to establish an independent research program. Board eligibility or certification is an advantage but not a requirement. Please forward curriculum vitae, three letters of reference, and a brief summary of current and future research interests to: Paul Rothman, M.D., Chief, Division of Pulmonary, Allergy, and Critical Care, College of Physicians and Surgeons, 630 West 168th Street, Vanderbilt Clinic 12-213, New York, NY 10032. *Columbia University is an Affirmative Action/Equal Opportunity Employer.*

WHEATON COLLEGE BIOLOGY

Wheaton College invites applications for a tenure-track **ASSISTANT PROFESSOR** position in biology. Candidates with experience in field biology or terrestrial ecology, particularly those applying molecular methods in their studies, should apply. Postdoctoral research experience advantageous. Active interest in environmental science, bioethics, or biological education helpful. Application deadline: December 15, 1998. Send letter of interest, résumé, and names of references to: Dr. Roger Kennett, Chair, Biology Department, Wheaton College, Wheaton, IL 60187. Application forms will be sent to promising candidates. *Wheaton is an evangelical Christian liberal arts college. The College complies with federal and state guidelines for nondiscrimination in employment. Women and minority candidates are encouraged to apply.*

POSITIONS OPEN

HUMAN ANATOMIST/PHYSIOLOGIST

Hope College anticipates a three-year term appointment for a Human Anatomist/Physiologist beginning in August 1999. Appointment will be made at the **ASSISTANT PROFESSOR** level. The successful candidate will teach separate courses (lecture and laboratory) in human anatomy and human physiology to biology, kinesiology, and nursing students. Collaborative research opportunities within the department are available.

Hope College is a distinguished liberal arts college with an enrollment of 2,900 and a faculty of more than 180. Hope College maintains a strong tradition of "teaching through research" in the sciences. Hope College is affiliated with the Reformed Church in America.

Qualified applicants should arrange to have a curriculum vitae, transcripts, a statement of teaching philosophy and competencies, teaching evaluations, and three letters of recommendation forwarded to:

Dr. Harvey Blankespoor
Chair of the Search Committee
Department of Biology
Hope College
35 East 12th Street
Holland, MI 49422-9000

Hope College places a high priority on sustaining a supportive environment that promotes opportunities for ethnic minorities and women. Therefore, applications from and nominations of women and minority group members are especially welcomed. Hope College complies with federal and state requirements for nondiscrimination in employment.

Brooklyn College/City University of New York invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in the Department of Biology beginning September 1999. We seek a broadly trained Physiologist who uses cell and molecular biology approaches. Preference will be given applicants with a strong background in biology of invertebrates. The faculty member is required to develop a research program that generates external funding and trains undergraduate and graduate research students. Applicants must have a Ph.D. degree, postdoctoral training, publications, and a strong commitment to undergraduate education. A complete application consists of curriculum vitae, statement of research plans, and three letters of recommendation (to be sent directly from three referees). Review of applications will begin on October 15, 1998, and continue until position is filled. Apply to: Dr. Joan Rome, Office of Personnel Services, Brooklyn College, 2900 Bedford Avenue, Brooklyn, NY 11210. *An Affirmative Action/Equal Employment Opportunity/IRCA/ADA Employer.*

RESEARCH SCIENTIST POSITION YALE UNIVERSITY SCHOOL OF MEDICINE

The Yale Liver Center seeks applications for an immediate opening for an experienced Molecular Biologist in the field of membrane transport to join a laboratory with a strong interest in the function of membrane transporters involved in bile secretion and cholestasis. Candidates should have a Ph.D. in cellular and molecular physiology and five to six years of experience utilizing techniques such as molecular cloning and expression systems and a record of independent and innovative research. Candidates should submit a curriculum vitae, a short statement of research interests and goals, and names and addresses of three references to: James Boyer, M.D., Director, Liver Center, Yale University School of Medicine, Section of Digestive Diseases, 333 Cedar Street, Room LMP 1080, New Haven, CT 06510.

Positions in organic chemistry. The University of Houston is accepting applications at **ALL FACULTY LEVELS** in organic chemistry with preference given to applicants with interests in either materials science or biotechnology/biochemistry. These positions are **TENURE-TRACK**, in a department with several active faculty in organic chemistry. Postdoctoral experience is required and junior applicants will be expected to have strong potential in research and a commitment to education at all levels. Exceptional applicants with an established reputation will be considered for a tenured position. Preference will be given to applicants whose field complements current strengths in organic chemistry at this Department. Please send a curriculum vitae, research plans, and three letters of recommendation by November 21, 1998, to: Prof. B. M. Pettitt, Department of Chemistry, University of Houston, Houston, TX 77204-5641. *The University of Houston is an Equal Opportunity Employer. Women, minorities, individuals with disability, and veterans are encouraged to apply.*



FACULTY POSITION IN BIOCHEMISTRY AND MOLECULAR BIOLOGY

THE UNIVERSITY OF CHICAGO

The Department of Biochemistry and Molecular Biology at The University of Chicago invites applications and nominations for a tenure-track position at any rank. The University has established a new interdivisional institute that links faculty in the Biological and Physical Sciences Divisions. We seek candidates who have or will establish outstanding programs focusing on fundamental research at the biological-physical science interface. In addition, all faculty are expected to teach in the departmental program. Applications should include a curriculum vitae, list of publications, summary of past research, plan for future research, and letters of reference from at least three individuals who know the candidate's work well. Please submit complete applications and nominations by December 15, 1998, to:

**Faculty Search Committee
Department of Biochemistry and Molecular Biology
The University of Chicago
920 East 58th Street
Chicago, IL 60637**

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

Veterinary Pathologist

We are Sanofi Research, a division of Sanofi Pharmaceuticals, Inc., a global leader in the discovery, development and marketing of new therapies, with one of the strongest pipelines in the industry. We currently have the following opportunities in the research division of our Malvern, Pennsylvania location:

The selected candidate will serve as a Senior Research Veterinary Pathologist, which includes Study Director/Study Monitor activities. This combination effort will involve ensuring that toxicology studies at our Great Valley headquarters are adequately supported by expert interpretation of anatomic pathology findings. You will also initiate and conduct toxicology studies assigned to the site and/or to contract laboratories. In-depth knowledge of toxicologic pathology and laboratory animal pathology, common diseases and diagnostic procedures is essential. DVM/Ph.D. with ACVP Board certification required. Preference will be given to candidates with experience in Toxicologic Pathology. Familiarity with GLP policies and drug regulatory testing requirements is also preferred.

If this is an area of significant interest to you, please send resume and salary requirements to: **Human Resources, GUL 98/078 Sanofi Research, 9 Great Valley Parkway, P.O. Box 3026, Malvern, PA 19355.** Only those candidates we wish to interview will be contacted. An equal opportunity employer.

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PATHOGENESIS CORPORATION is a rapidly growing, 6-year-old biopharmaceutical company dedicated to the discovery and treatment of infectious diseases. We received FDA approval in December 1997 for our lead product "TOBI," designed for inhalation for cystic fibrosis patients. In establishing an emerging pipeline of products in various stages of development, PathoGenesis has gone from start-up to profitability in 5 years. We are a fast-moving company with a global focus, and we invite you to apply for the following exciting new opportunities.

DIRECTOR, BIOCHEMISTRY

Leading our biochemical efforts in anti-infective drug discovery, you will contribute to project planning, provide overall scientific direction, and effectively prioritize and budget for research efforts. You will direct and manage a group of scientists focused on mechanism of action studies and molecular target discovery, characterization, prioritization, assay development and compound screening. The qualified candidate will have a PhD in Chemistry or Biochemistry with 5-10 years postgraduate experience in mechanistic enzymology, drug target discovery and high throughput assay development for compound screening. Technical experience must include protein purification, radiochemical and spectrophotometric assays of enzymatic activity, coupled assays of enzyme activity, HPLC, FPLC, enzyme kinetics, and biological mass spectrometry (MALDI, FABS). Familiarity with protein expression technologies and purification through the use of metal affinity chromatography, chitin binding, or immunoaffinity methods is essential, as is at least 4 years of proven success managing a group of scientists (PhD and non-PhD). Experience with the integration of genomic information into drug target discovery, high throughput assay development and bacterial systems is highly preferred. The ideal candidate will also have a strong background in medicinal chemistry, organic synthesis and analytical methods in organic chemistry (NMR, MS). A strong publication record, excellent communication skills and the ability to work in a project team-oriented environment are required.

SENIOR SCIENTIST Research Biology

You will provide scientific leadership and management, as well as hands on experimental expertise for molecular microbiological research projects supporting drug target discovery, mechanism of action and resistance studies. Requirements include a PhD in Molecular Biology, Microbiology or Biochemistry with a minimum of 4 years postdoctoral experience. Background in microbial gene regulation, drug resistance, mechanism of action and microbial genomics is preferred, as is experience with a variety of bacterial pathogen systems including *Pseudomonas aeruginosa*. Experience with recombinant gene expression and protein expression for purification and assay development is necessary. Strong verbal and written communication skills and the ability to manage and motivate a staff are essential.

To learn more about these and other available positions, visit our website:

www.pathogenesis.com

Located on the Seattle waterfront, we offer a competitive salary and comprehensive benefits program, including stock options. To apply, please send CV and the names of 3 references to: PathoGenesis Corporation, Attn: Human Resources, 201 Elliott Avenue West, Suite 150, Seattle, WA 98119; FAX: (206) 270-3343. PathoGenesis is an Equal Opportunity Employer.



PATHOGENESIS CORPORATION

POSITIONS OPEN

MICROBIOLOGIST

The Department of Biological Sciences at the University of Alabama in Huntsville announces a tenure-track faculty position in microbiology beginning in August 1999. We are recruiting an **ASSISTANT PROFESSOR** able to teach undergraduate and graduate courses in microbiology and related areas. The applicant should be broadly trained in microbiology and possess a Ph.D. in an appropriate area of the discipline. Postdoctoral experience is very desirable. Although the area of research interest is open, individuals with expertise in medical microbiology, immunology, and/or virology are particularly encouraged to apply. The development of a strong, independent research program and the ability to attract extramural funding is required. Ability and willingness to collaborate with the Natural Products Research Group and/or the Laboratory of Structural Biology in microbiological screening/drug design of putative biologically active compounds will be viewed favorably. The successful candidate will be expected to involve undergraduates as well as graduate students in his/her research program. Salary is competitive. Send letter of application, curriculum vitae, statement of teaching and research interests, and four letters of reference to: **Chair, Microbiology Search Committee, Department of Biological Sciences, Wilson Hall, The University of Alabama in Huntsville, Huntsville, AL 35899.** Applications will be accepted through November 30, 1998, with screening beginning soon after publication of this advertisement. *UAH is an Affirmative Action/Equal Opportunity Institution.*

UNIVERSITY OF ALASKA FAIRBANKS

The Institute of Arctic Biology and the Department of Chemistry and Biochemistry of the University of Alaska Fairbanks invite applications for a tenure-track **ASSISTANT PROFESSOR** with potential for establishing an active and externally funded research program and for being an effective undergraduate teacher and graduate student mentor. The expected starting date will be the 1999 fall semester. We seek candidates who can create new research programs in environmental health or biological effects of environmental contaminants on wildlife living at high latitudes (including human subsistence resources), or who would complement existing research areas in chemical ecology or biogeochemistry. Applicants with strong molecular skills are particularly encouraged to apply. Teaching responsibilities include graduate student supervision and two to three courses per year including organic chemistry. Candidates must have an earned doctorate in chemistry, biochemistry, or appropriate discipline. Postdoctoral research training and undergraduate teaching experience are required. Send curriculum vitae, copies of all transcripts, statements of teaching philosophy and research interests, and three letters of recommendation by December 1, 1998, to: **Dr. Thomas Clausen, Department of Chemistry and Biochemistry, University of Alaska Fairbanks, Fairbanks, AK 99775-6160.** For more information please visit our websites: <http://mercury.bio.uaf.edu/> and <http://www.uaf.edu/chem/index.html>.

CAMPUS VETERINARIAN. A position is available at the Marine Biological Laboratory (MBL) responsible for the management of Veterinary Care. Care responsibility will primarily be for aquatic organisms, but will include some terrestrial animals. Position oversees the program of veterinary care; promotes and conducts an independent research program; develops and institutes policies promoting health and welfare of animals; institutes progressive methods of disease prevention; obtains grants/resources; provides consultation and collaborative support to MBL staff and visiting Investigators; and is institutional spokesperson on aquatic medicine. Must possess a D.V.M./V.M.D. degree, have at least five years of experience, including at least three in aquatic medicine, and be eligible for licensure in Massachusetts. Board certification and Ph.D. preferred. Leadership skills, excellence in communication, collegiality, and ability to serve as a collaborator are requirements. Competitive salary and benefits. Position to begin after January 1, 1999.

Application deadline: The search will remain open until a successful candidate is identified. Review of applicants will begin on November 16, 1998. Curriculum vitae and the names of at least three references should be sent to: **Human Resources Office, Marine Biological Laboratory, 7 MBL Street, Woods Hole, MA 02543.** E-mail: resumes@mbi.edu.

An Equal Opportunity/Affirmative Action Employer. Non-smoking workplace.

POSITIONS OPEN



QUALITY CONTROL MANAGER

Ambion, Inc. is a rapidly growing biotechnology company that develops and produces innovative research products for Molecular Biologists. We are seeking a dynamic scientist to lead our Quality Control Department as a Quality Control Manager (Job #192). Qualified candidates should have a B.S. in molecular biology or related field; however, an M.S. or Ph.D. is preferred. A strong background in RNA-related techniques is required. Previous experience in an industrial manufacturing and/or quality control environment along with ISO-9000-quality standards are highly preferred. Ambion is located in Austin, Texas, the state capital and home of the University of Texas. Austin is situated on the edge of the Texas hill country and highland lakes region.

Ambion offers a stimulating work environment, competitive salary, company-paid insurance, 401(k) plan, employee stock option plan, tuition reimbursement plan, and bonus plan.

Reply to: **Ambion, Inc. (Job #192), 2130 Woodward Street, Suite 200, Austin, TX 78744-1832.** Website: www.ambion.com; e-mail: resumes@ambion.com. *Equal Opportunity Employer.*

COMMUNITY/LANDSCAPE ECOLOGIST

The Department of Biology at Boston University invites applications for an **ASSISTANT PROFESSOR** to begin in the fall of 1999. The successful candidate will be expected to have a strong background in organismal biology, and use modern approaches to address questions in community ecology and ecological modeling. Teaching responsibilities include an undergraduate (non-major) course in global ecology and a graduate-level course in community/landscape ecology and/or ecological modeling. Applicants should have a Ph.D. with postdoctoral experience, an active research program, and a commitment to excellence in teaching. The successful candidate will complement existing emphasis in ecology, behavior, evolution, and conservation biology. Applicants should send a curriculum vitae, statements of research and teaching interests, copies of three major publications, and three letters of reference by December 1, 1998, to: **Dr. Thomas H. Kunz, Chair, Community/Landscape Ecology Search Committee, Department of Biology, 5 Cummington Street, Boston University, Boston, MA 02215.** *Boston University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR IMMUNOLOGY

Applications are invited for a tenure-track faculty appointment as Assistant Professor in the Department of Microbiology and Immunology, School of Medicine, University of North Carolina at Chapel Hill, beginning summer 1999. We seek a candidate with clear capability to establish and maintain an independent research program in molecular immunology, and who will participate in the teaching of graduate and medical students. A Doctoral degree and relevant postdoctoral experience are required. Preference will be given to individuals who reply by December 1, 1998. Send curriculum vitae, statement of research interests and future plans, representative reprints, and arrange to have three letters of reference sent to: **Dr. Stephen H. Clarke, Search Committee, Department of Microbiology and Immunology, CB# 7290, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599.** *Women and minorities are encouraged to identify themselves. The University of North Carolina at Chapel Hill is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE II/RESEARCH INVESTIGATOR. Academic/working knowledge of microbiology. Experience in bacteriology/virology, infectious diseases, enveloped viruses, immune responses, pharmaceutical testing, flow cytometry, tissue culture, and animal models.

Contact: **Allergy/Internal Medicine, University of Michigan Medical Center, 9220 MSRB III, 1150 West Medical Center Drive, Ann Arbor, MI 48109-0648.** FAX: 734-936-2990; e-mail: cverweij@umich.edu. *A nondiscriminatory Affirmative Action Employer.*

POSITIONS OPEN

MOLECULAR BIOLOGIST LAFAYETTE COLLEGE

Tenure-track **ASSISTANT PROFESSOR** to begin in August 1999. Candidates must have a Ph.D. degree, postdoctoral training, demonstrated teaching experience, and research experience in molecular biology. We seek a broadly trained Biologist committed to excellence in teaching and research within the context of a highly selective, undergraduate, liberal arts institution. Teaching load 2/2 with additional responsibility to supervise Honors and independent research students. Teaching duties include basic and advanced courses in molecular biology with laboratories, an additional intermediate-advanced course in the applicant's research area, and teaching in the introductory biology course sequence with occasional participation in the College-Wide Common Course of Study. The successful applicant will be expected to maintain a vigorous research program involving undergraduates leading to publications. Expanded position description available at website: <http://www.lafayette.edu/biology/biohome.html>. Competitive salary, benefits, and start-up funds. Applicants should submit curriculum vitae, undergraduate and graduate transcripts, a two-page description of teaching philosophy and research plans with undergraduates, and arrange for three letters of recommendation to be sent by 18 December 1998 to: **Dr. Shyamal K. Majumdar, Head, Department of Biology, Lafayette College, Easton, PA 18042-1778.**

Lafayette College is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

The Arizona Cancer Center, an NCI-designated comprehensive cancer center, seeks a new **DIRECTOR** to replace founding Director, **Dr. Sydney E. Salmon.** Required qualifications include an M.D. or M.D.-Ph.D. Physician Scientist for productivity in cancer research; clinical practice experience; and demonstrated leadership abilities in a complex organization. Preferred qualifications include translational research interest; knowledge of current clinical operations in academic medicine; recognized vision and drive to carry the Center into the next generation of cancer research; education and development interest; and the ability to maintain the Center's preeminence among international cancer institutions. The new Director will have an appointment in the appropriate academic department.

Review of applications begins November 19, 1998, and the position will remain open until filled. Interested applicants should submit a curriculum vitae and names of three references to:

**Dr. Raymond Nagle
Deputy Director, Arizona Cancer Center
P.O. Box 245024**

**The University of Arizona College of Medicine
Tucson, AZ 85724-5024**

Visit the ACC website: <http://www.azcc.arizona.edu/> (director search button). *The University of Arizona is an Equal Employment Opportunity/Affirmative Action Employer. Minorities/Women/Disabled/Veterans.*

ASSISTANT SCIENTIFIC DIRECTOR GENE THERAPY

Center in connective tissue diseases is seeking a scientist to assist in the administration of a newly established center for gene therapy for musculoskeletal diseases, such as osteoporosis and various types of arthritis. Research experience in viral vectors, gene delivery systems for *ex vivo* and *in vitro* gene transduction, and *in vivo* gene therapy is highly desirable. Administrative experience essential. Salary and benefits competitive; possible long-term position. Send résumé, cover letter, and names of three references to: **David J. Baylink, M.D., Musculoskeletal Disease Center, Loma Linda University, P.O. Box 7210, Loma Linda, CA 92354.**

Project management. ILEX Oncology Inc., a growing oncology drug development company in San Antonio, Texas, has an immediate opening for a **PROJECT LEADER.** Primary requirements for this position are a minimum of five years of experience in pharmaceutical clinical trial monitoring, or equivalent experience; a B.S. in life science or equivalent professional level of experience; graduate degree a plus; excellent written and oral communication skills; and 20 percent overnight travel. Successful candidate will be offered an excellent benefit package and competitive salary. Send résumé to: **Human Resources Department, 11550 IH-10 West, Suite 300, San Antonio, TX 78230.** FAX: 210-949-8483; e-mail: jobs@ilexonc.com. *An Equal Opportunity Employer/Minorities/Females/Disabled/Veterans.*

Roche

vitamins

Biotech

Your expertise belongs at our Center of Excellence.

Take biotechnology and your career in a new direction at Roche Vitamins Inc., an industry leader for human and animal health and nutrition. At the new home of our global Center for Excellence in Biotechnology in Nutley, NJ, we are developing new products and processes in a range of areas including vitamins, carotenoids, food ingredients, enzymes, and medicated feed additives.

Right now, we have outstanding opportunities for research scientists and senior research scientists to work with a team of experienced professionals focusing on developing novel biocatalytic routes for chiral intermediates.

Senior Research Scientist

Working with molecular biologists, biochemists, biochemical engineers and organic chemists, your duties will involve screening, development and application of biological catalysts, performance of basic chemical/biochemical syntheses and analyses, report writing and internal/external presentation.

To qualify, you must have an expert knowledge of biocatalysis in conventional/non-conventional media, low-water enzymology, bioreaction engineering and biocatalyst screening, development and application. Experience in bioorganic synthesis and design of synthetic methodologies is also desirable, as are good analysis, communication and presentation skills, and the ability to function effectively as a member of an interdisciplinary team. Position requires Ph.D. or Master's degree in chemistry or biochemistry with a minimum of 8 years of research experience in the area of applied biocatalysis. Dept 98067.

Research Scientist

Work will involve screening, development and application of biological catalysts, performance of basic chemical/biochemical syntheses and analyses, report writing and presentation.

To qualify, you must have a B.S. degree with 5-7 years experience or Master's degree with 2-3 years experience in Chemistry or Biochemistry and experience at the bench in the pharmaceutical or fine chemicals industry and/or equivalent in a research environment. Background is desirable in applied biocatalysis and organic synthesis utilizing enzymes/whole cells, as is a solid working knowledge of bioorganic synthesis and biochemical manipulation. Excellent communication skills and attention to detail are essential. Dept. 98068.

We offer an excellent compensation package commensurate with your qualifications, and a progressive environment that's conducive to professional growth. For immediate consideration, send your resume or cv indicating salary requirements and appropriate dept code, to: Human Resources Dept., Roche Vitamins Inc., 45 Waterview Blvd., Parsippany, NJ 07054-1298. Principals only. We appreciate your interest in Roche Vitamins Inc., but can only respond to qualified candidates. Roche Vitamins Inc. is an equal opportunity employer fully committed to diversity in the workplace.

Rewarding Careers with COR

Located in the San Francisco Bay Area, COR Therapeutics, Inc. is a publicly-held biopharmaceutical company focused on the discovery & development of novel therapeutics for the treatment of severe cardiovascular disease. Our continued growth has created exciting career opportunities within our dynamic R&D department.

Scientist

Drug Metabolism & Pharmacokinetics

You will provide drug metabolism & pharmacokinetic expertise to help select compounds & formulations as new drug candidates. You will also design & execute experiments, develop models, and participate in discovery teams. Qualified candidates will possess a Ph.D. in metabolism, pharmacokinetics, or pharmacology; 2-5 years of ADME/PK experience in the pharmaceutical industry; and hands-on experience developing & validating bioanalytical methods using LC/MS/MS. (Job# 98069-SCI)

Assay Services Supervisor

You will oversee several GLP systems and bioanalytical methods to support various preclinical & clinical programs. The position requires a BS in chemistry, biochemistry or related field; 5+ years of relevant pharmaceutical industry experience; 2+ years of supervisory experience; proven knowledge of cGLPs, method development, validation, and bioanalytical testing methods; understanding of statistics & laboratory automation; and experience with implementation/maintenance of LIMS databases. (Job# 97090-SCI)

Scientist Vascular Biology

You will conduct basic research in the area of vascular biology with an emphasis on defining the role of growth factors in vascular pathology & angiogenesis. The position requires a Ph.D., 3+ years of postdoctoral training, and working knowledge of the intracellular pathways involved in cell migration and proliferation. A solid background in the area of vascular injury, atherosclerosis or angiogenesis is a must. (Job# 98031-SCI)

Research Associates

Medicinal & Combinatorial Chemistry

You will be involved with the multi-step synthesis, purification and characterization of novel organic molecules as potential drug candidates. Qualified candidates will have a BS in organic chemistry with at least 2 years of synthetic organic chemistry experience, or an MS degree with 0-2 years of experience in organic synthesis. (Job# 98062-SCI)

Postdoctoral Fellow

You will conduct research to discover basic mechanisms of integrin signal transduction with a focus on tyrosine kinases in signalling in platelets and endothelial cells. Applicants should have a solid background in biochemistry, molecular biology or cellular biology. (Job# 98068-SCI)

COR Therapeutics, Inc. offers competitive salaries & benefits, attractive equity positions and the opportunity to make significant research contributions. To apply, please send resume to: COR Therapeutics, Inc., Human Resources Dept., (Attn: Job#), 256 East Grand Avenue, South San Francisco, CA 94080; fax: (650) 615-9639; email: hr@corr.com. COR is an equal opportunity employer.



COR THERAPEUTICS, INC.

POSITIONS OPEN

The U.S. Environmental Protection Agency is seeking an established scientist to lead its nationally recognized Pharmacokinetics Branch, Experimental Toxicology Division, in the National Health and Environmental Effects Research Laboratory, Research Triangle Park, North Carolina. The Branch is responsible for planning and conducting a comprehensive research program focused on understanding and describing the fate and disposition of chemicals in the body and ultimately developing quantitative models for extrapolation/prediction in the context of the Agency's hazard and risk assessment activities. In accomplishing its work, the Branch has relied heavily on close interplay of both experimental and modeling strategies. As **BRANCH CHIEF**, we seek an individual who is a competent research leader as demonstrated by the conception and formulation of productive research programs, supervision of Ph.D.-level scientists (individually and as teams), budget/administrative management experience, and substantial peer-reviewed publications in the area of pharmacokinetics/pharmacodynamics and associated modeling. Specific experience in physiologically based pharmacokinetics (PBPK) and mechanistic modeling, xenobiotic characterization and analysis, distribution, absorption, metabolism, and elimination in biological systems, both *in vivo* and *in vitro*, is desirable. The successful applicant will have a unique opportunity to develop innovative research strategies to extrapolate xenobiotic exposure from animal to human effects. He/she will work with multidisciplinary research teams at EPA as well as area universities who share an interest in developing PBPK, dose-response models, and other methods for enhancing our knowledge of the health effects of xenobiotics and improving risk assessment methods. The position requires a Ph.D. in pharmacology, toxicology, mathematics, engineering, and physical sciences, or a closely related field. *You must have U.S. citizenship.* The position will be filled at the GS-14/15 level with salary in the \$65,000 to \$99,000 range, depending on experience. Interested applicants should send a résumé, statement of research interests, brief description of management/administrative experience, and the names of three references to: **Dr. Linda Birnbaum, Environmental Toxicology Division (MD-66), National Health and Environmental Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711** by November 30, 1998. *The U.S. EPA is an Equal Employment Opportunity Employer.*

SURGICAL PATHOLOGIST. The University of California, San Diego (UCSD) Department of Pathology seeks a Surgical Pathologist for appointment at UCSD Medical Center, effective January 1, 1999. Candidates should be Board-certified in anatomic or anatomic and clinical pathology, should either possess or be able to obtain a State of California medical license, and should have strong experience in gynecologic pathology, hematopathology, and/or cytopathology. Since the appointment will be made in the clinical professorial series, the candidate should be committed to clinical service, teaching, and scholarly activity. Rank will be commensurate with experience. Salary will be consistent with established UCSD pay scales. Applicants should submit curriculum vitae and names of five references by November 10, 1998, to: **University of California, San Diego, Sidney L. Saltzstein, M.D., M.P.H., Chair of the Surgical Pathology Search Committee and Department Vice-Chair, c/o Judy Riddle, Department of Pathology, University of California, San Diego School of Medicine, 9500 Gilman Drive, La Jolla, CA 92093-0612.** *Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSOCIATE

A full-time Research Associate position is available at the Research Department of the Shriners Hospitals for Children in Tampa to investigate the effects of ischemic injury on the development of the deformity of immature femoral head in an *in vivo* model. The candidate will work with an Orthopaedic Surgeon as part of a multidisciplinary team to define the cellular, structural, and vascular effects of ischemia on the developing hip. Some experience in the areas of musculoskeletal histology, immunohistochemistry, cartilage biochemistry, microangiography, apoptosis, and angiogenesis would be helpful. Excellent salary based on experience and qualifications. Full benefits. A Ph.D. degree and postdoctoral experience is preferred. Send a curriculum vitae and two letters of recommendation to: **Shriners Hospitals for Children-Tampa, Human Resources, 12502 North Pine Drive, Tampa, FL 33612-9499.** *Equal Opportunity Employer. Alcohol/drug-free workplace.*

POSITIONS OPEN

STAFF POSITION MICROSCOPIST

The Plant Biology Division at the Samuel Roberts Noble Foundation has an opening for a Microscopist (Senior Research Associate II level, Ph.D. preferred) to run its microscopy facilities. The individual will manage a confocal laser scanning microscope (BioRad model MRC 1024 (multiphoton compatible)) mounted on a Zeiss Axioskop microscope, two fluorescence microscopes (Nikon Microphot-FX and Optiphot-2), one inverted microscope (Nikon Diaphot), and various other low-power microscopes. The successful applicant will also maintain microtomes (RMC MTX ultramicrotome, Reichert-Jung Supercut microtome), a microinjection unit, and a laser pipet puller (Sutter P-2000). The applicant must have demonstrated experience in light and confocal microscopy of plant tissue and be fluent in computer software applications for image capture and analysis. Candidates with additional experience in cell and molecular biology, microinjection, or electron microscopy are encouraged to apply. Responsibilities include the operation and maintenance of equipment, training of users, and initiation of collaborative research with Principal Investigators at the Foundation.

Competitive salary commensurate with experience; benefits and relocation expenses are provided. Applicants should send a full curriculum vitae, cover letter, and names of at least three referees to: **Jane Nance, Human Resources Assistant, The Samuel Roberts Noble Foundation, P.O. Box 2180, Ardmore, OK 73402.** Applications must be received no later than November 16, 1998. For further information on the Noble Foundation, please visit our website: www.noble.org or contact: **The Division Director, Dr. Richard Dixon, Telephone: 580-223-5810** for further details. *The Noble Foundation is an Equal Opportunity Employer.*

EDEN BIOSCIENCE CORPORATION

EDEN Bioscience Corporation is an agricultural biotechnology company located near Seattle, Washington.

Job: PLANT PATHOLOGIST (SCIENTIST) to work in our Plant Diagnostic Laboratory. Our retail diagnostic laboratory provides both national and international growers a prompt and accurate resource for plant pathology diagnosis.

Duties: Identify and quantify nematodes extracted from soil and tissue samples. Identify fungi and bacteria isolated from sample materials. Evaluate soil dilution platings for specific organisms as required. Prepare and review reports for clients and make appropriate management recommendations for problem(s) identified. Discuss results with clients when necessary. Occasional field visits will be required, as well as attendance at regional and national professional meetings and shows.

Qualifications: M.A./M.S. in plant pathology or related field and one to five years of related professional experience; Ph.D. in plant pathology; and commercial experience preferred. Familiarity with plant pathological methods and techniques essential. Good working knowledge of a wide range of plant health problems necessary. Experience with horticultural aspects of plant growth, plant physiological requirements and responses. Demonstrated computer competence, good interpersonal skills, and basic administrative knowledge also important.

Compensation: Salary and incentive programs dependent upon qualifications.

Send résumé and references to: **EDEN Bioscience Corporation, Human Resources Division, 11816 North Creek Parkway North, Bothell, WA 98011-8205.**

The Departments of Medicine and Microbiology and Immunology at the University of California, San Francisco is recruiting to fill the position of **DIRECTOR** for a new Center for Microbial Pathogenesis and Host Immunity at San Francisco General Hospital. Appointment will be at the rank of **PROFESSOR IN RESIDENCE**. Candidates must have an M.D. or Ph.D. degree, demonstrated leadership ability, and a strong record of independent research productivity in areas of biology directly relevant to microbial pathogenesis or host immunity. Send curriculum vitae and three letters of recommendation to: **John Imboden, M.D., Chair, Search Committee, University of California, San Francisco, Box 0868, San Francisco, CA 94143.** *UCSF is an Affirmative Action/Equal Opportunity Employer. The University undertakes Affirmative Action to assure Equal Employment Opportunity for underutilized minorities and women, for persons with disability, and for Vietnam-era veterans and special disabled veterans.*

POSITIONS OPEN

FISHERIES SCIENTIST GREAT LAKES WATER INSTITUTE University of Wisconsin System University of Wisconsin-Milwaukee

The University of Wisconsin System/University of Wisconsin-Milwaukee (UWS/UWM) Great Lakes Wisconsin Aquatic Technology and Environmental Research (WATER) Institute, in cooperation with the Wisconsin Department of Natural Resources (WDNR), seeks a Fisheries Scientist to fill a senior-level, full-time research position within the WATER Institute of the UWM Graduate School.

The WATER Institute is looking for an outstanding Fisheries Scientist with a demonstrated track record of funded research who will continue to pursue aggressively a state-of-the-art research program with an active field component in the Great Lakes in some or all of the following areas: fisheries population dynamics, fisheries biology, ecology, ichthyology, and biological/chemical/physical interactions.

The incumbent is expected to interact in a highly interdisciplinary, team-oriented environment and to develop partnerships with the WDNR through the development of research agendas that are responsive to fisheries management needs of the agency; to participate in scientific and public policy forums; to supervise students and Postdoctoral Scientists; and to participate actively in the communication of research findings.

Qualifications: Ph.D. and experience beyond the postdoctoral level.

Compensation and appointment: Salary commensurate with qualifications and experience; appointment is on an academic year basis and includes excellent fringe benefits.

Application: Applicants should submit a letter of application, résumé, and the names, addresses, and telephone numbers of three references, postmarked by November 20, 1998, to: **Chair, Screening Committee, Fisheries Scientist, University of Wisconsin System/University of Wisconsin-Milwaukee Great Lakes WATER Institute, 600 East Greenfield Avenue, Milwaukee, WI 53204. Telephone: 414-382-1700; FAX: 414-382-1705.**

Minorities and members of underrepresented groups are encouraged to apply. Equal Opportunity Employment/Affirmative Action/Minorities/Females/Disabled/Veterans.

EVOLUTIONARY BIOLOGY AND ECOLOGY

The Department of Biology at Vanderbilt University invites applications for two tenure-track positions to be filled at **JUNIOR** or **SENIOR LEVEL** for the fall of 1999. For the evolutionary biology position, we are particularly interested in individuals using molecular and/or phylogenetic methods to investigate evolutionary questions at the organismal level. For the ecology position, we seek applicants using experimental approaches to address questions at any level from individuals to communities. Successful candidates will be expected to establish vigorous, externally funded research programs, and to contribute to the teaching mission of the University. For more information about the department see website: <http://www.biology.vanderbilt.edu/biowww/biodept.htm>. Applications should include a curriculum vitae, statement of research interests, and select reprints of published works. Please arrange to have three letters of reference sent by the application deadline, November 15, 1998, to either: **The Evolutionary Biology or Ecology Search Committee, Department of Biology, Box 1812B, Vanderbilt University, Nashville, TN 37235.** *Vanderbilt University is an Affirmative Action/Equal Opportunity Employer.*

LIFE SCIENTIST

Ecology and Environment, Inc. (E & E), an international environmental consulting firm, has an immediate opening for an experienced Ph.D. in the life sciences with training/work in biophysics, toxicology, pharmacology, or molecular biology. The position requires sound scientific skills and the ability to apply innovative approaches to complex litigation and risk assessment involving environmental and human health issues. Prior litigation support experience and trade association participation are highly desirable. If interested, please send your résumé, salary expectations, and writing sample to: **Ms. Janet Steinbrucker, Director of Human Resources, Ecology and Environment, Inc., 368 Pleasant View Drive, Lancaster, NY 14086. FAX: 716-684-0844; e-mail: jas02@ene.com; website: www.ecolen.com.**



Postdoctoral Research Fellowships

"The Intracellular Site of Amyloid Precursor Protein Cleavage"

Applications are invited for a two year Postdoctoral position in the Institute of Molecular BioSciences to study the mechanism that leads to formation of the A-beta peptide, which is a major component of amyloid that builds up in plaques in Alzheimer's disease patient's brains. The aim is to determine the intracellular location of both "normal" and "aberrant" cleavage of amyloid precursor protein (APP) in cultured human neuroblastoma cells. Cell fractionation, in vitro reconstitution of membrane traffic, and fluorescence microscopy will be used to characterise intracellular organelles containing APP.

The annual salary for a Postdoctoral Fellowship is currently NZ\$44,319.

Enquiries of a scientific nature should be addressed to Dr M Grimes (telephone 06-350 4787, facsimile 06-350 5688, email M.L.Grimes@massey.ac.nz).

Reference number: SCI66/98L must be quoted.

Closing date: 20 December 1998.

General information about the University can be found on the Web at <http://www.massey.ac.nz>, at <http://www.pncc.govt.nz> for information about Palmerston North, and at <http://www.nsc.govt.nz> for information about Albany.

An information package including the Conditions of Appointment can be obtained from the Human Resources Section (telephone 64-6-350 5299, email HRS@massey.ac.nz or fax 64-6-350 5615).

Formal applications, including a full Curriculum Vitae should be directed to Lynette Hensman. You are required to have three referees submit reports directly to Ms Hensman by the closing date. Referees should provide telephone, fax and email contacts.



Equality of opportunity is University policy

Private Bag 11-222, Palmerston North,
New Zealand

Department of Laboratory Medicine and Pathobiology

Faculty of Medicine
UNIVERSITY OF TORONTO

Faculty Positions

The Department of Laboratory Medicine and Pathobiology, Faculty of Medicine, University of Toronto is seeking applicants for four full-time faculty positions, either non-tenure or tenure-stream at the rank of Assistant Professor available July 1, 1999. We are particularly interested in individuals working in the areas of molecular and biochemical mechanisms of disease and in biotechnology. Two of these positions are directed exclusively at candidates working in the broad area of microbiology.

Candidates must have a Ph.D. or equivalent, have completed significant postdoctoral training, and have an established track record of high-quality research. Exceptional candidates with established funded research programs and a rank of Associate Professor may be considered as well. Teaching experience at the undergraduate and graduate level is an important asset. The department is dedicated to excellence and innovation in teaching and research.

The successful candidate is expected to participate actively in graduate and undergraduate teaching, maintain a well-funded independent research program, and interact with other investigators of the Department and of the Faculty of Medicine. The Department of Laboratory Medicine and Pathobiology has investigators on the University of Toronto campus and at the major affiliated teaching hospitals in Toronto and focuses on several areas of research including cardiovascular disease, immunopathology and infectious diseases, neurobiology, endocrinology and metabolism, neoplasia, bone and connective tissue disease, clinical and molecular epidemiology and biotechnology. The department has a very active graduate department, which is part of the School of Graduate Studies, University of Toronto.

Applicants should submit curriculum vitae, description of their research accomplishments, and the focus of their planned research program by January 31st, 1999. Those applying for the microbiology positions should indicate this in their application. Letters of reference from three individuals familiar with the candidate's research and teaching accomplishments should be sent directly to the **Chair, Academic Search Committee, Department of Laboratory Medicine and Pathobiology, Faculty of Medicine, University of Toronto, Room 110, 100 College Street, Toronto, Ontario M5G 1L5 Canada.**

In accordance with its Employment Equity Policy, the University of Toronto encourages applications from qualified women and men, members of visible minorities, aboriginal peoples, and persons with disability. In accordance with Canadian Immigration requirements this advertisement is directed to Canadian citizens and permanent residents.

GLOBAL OPPORTUNITIES

CSIRO Telecommunications and Industrial Physics, Sydney NSW, Australia



Post Doctoral Fellowship

Artificial Photosynthesis

A\$44K - A\$50K + Superannuation

Applications are invited for a Post-Doctoral fellow to join a team being established to carry out research in the area of artificial photosynthesis. The successful applicant will need a PhD degree about to be awarded or awarded within the last three years. The Post-Doctoral fellow may utilise the Divisions experience in superconducting quantum interference devices (SQUIDS) and synthetic membrane technology or embark on other experiments or conduct theoretical modelling of the physics of photosynthesis. Innovation will be encouraged.

The successful applicant's training may be in biophysics, biochemistry, plant cell biology, materials science, physics or chemistry. Experience in, or knowledge of, the physical aspects of photosynthesis would be an advantage.

The ability to communicate well, both orally and in writing, and to work in a team environment are essential. The position is offered for a term of three years.

A copy of the selection criteria and duty statement may be obtained from Mr Geoff Hall telephone (61 2) 9413 7450, fax (61 2) 9413 7850 or email geoff.hall@tip.csiro.au. Specific questions concerning the research may be directed to Dr J.J.Lowke on email: lowke@tip.csiro.au, Dr A.F. Collings on email: tonyc@tip.csiro.au or Dr Braach-Maksvytis on email: vijoleta@tip.csiro.au. Applicants should quote Reference No. AS98/21 and should include relevant personal particulars, qualifications and experience.

Please address your applications to: **The Human Resources Department, CSIRO Telecommunications and Industrial Physics, PO Box 218, Lindfield NSW 2070, Australia** by 27 November 1998.

64190

Australian Science, Australia's Future

POSITIONS OPEN

UNIVERSITY OF CHICAGO

The Department of Ecology and Evolution invites applications for two faculty positions at **OPEN RANK** in the fields of ecology and evolution. We are searching broadly in these fields, and anticipate making one appointment at a Senior level and one at a Junior level. These positions will complement our recent recruitments in evolutionary genetics and behavior. Information about the department and the closely affiliated Committee on Evolutionary Biology can be found at **website: <http://pondside.uchicago.edu/ecol-evol>** and **website: <http://pondside.uchicago.edu/ceb>**. Send a curriculum vitae, selected reprints and preprints, statements of research and teaching interests, and the names and addresses of three references to: **Search Committee, Department of Ecology and Evolution, University of Chicago, 1101 East 57th Street, Chicago, IL 60637**. Applications will be accepted until the position is filled, but applications should be received before November 15, 1998, to insure full consideration. *The University of Chicago is an Equal Opportunity/Affirmative Action Employer.*

The Department of Chemical Engineering, University of Wisconsin-Madison seeks outstanding individuals with a Ph.D. and a strong background in chemical engineering. These **TENURE-TRACK POSITIONS** will be at a rank commensurate with the qualifications and background of the successful candidates. Candidates should have a distinguished academic record, exceptional potential for creative research, and a commitment to both undergraduate and graduate instruction. For more senior applicants, an outstanding reputation in the field of specialty is a prime requirement. Nominations, or applications, with supporting documents and a list of at least three references should be sent to: **Professor W. H. Ray, Chairman of the Faculty Search Committee, Department of Chemical Engineering, University of Wisconsin-Madison, 1415 Engineering Drive, Madison, WI 53706**. Applications received prior to the deadline of December 31, 1998, will receive full consideration. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

The Department of Pathology at Wayne State University has openings for three full-time **RESEARCH ASSISTANTS/ASSOCIATES**. We are looking for highly organized individuals with a Bachelor's degree in biology or related fields. Ph.D. required for Associate position. Research areas include molecular biology, fluorescence *in situ* hybridization, and immunohistochemistry. In addition, good computer skills are required to coordinate the entry and management of scientific data. These positions offer an excellent opportunity for career development in biomedical research using the state-of-the-art technologies. Please send curriculum vitae and three letters of reference to:

**Wael Sakr, M.D.
Wayne State University
Department of Pathology
540 East Canfield
Detroit, MI 48201**

WSU is an Equal Employment Opportunity/Affirmative Action Employer.

CAREER IN OPTOMETRY, OPTOMETRIC RESEARCH, OR TEACHING

The New England College of Optometry offers a unique program for those with a doctorate in the sciences: biology, chemistry, physics, psychology, etc. Candidates have the opportunity to obtain the Doctor of Optometry (O.D.) degree in 27 months. The program begins annually in June. Employment opportunities exist in private practice, industry, education, and research. Contact: **The Admissions Office, New England College of Optometry, 424 Beacon Street, Boston, MA 02115. Telephone: 800-824-5526; e-mail: admiss@ne-optometry.edu**. Additional information, **website: www.ne-optometry.edu**. Application deadline March 1.

COLUMBIA UNIVERSITY

STAFF ASSOCIATE position available for an active developmental biology and pathology laboratory. Requires B.A./B.S. with minimum of four years of experience in database management, statistical analyses, immunohistochemical and molecular techniques, preferably with prior experience in developmental/reproductive pathology. Résumé and salary requirements to: **Dr. C. Salafia, Pathology, Columbia University, 630 West 168th Street, New York, NY 10032**. *We take Affirmative Action toward Equal Employment Opportunity.*

POSITIONS OPEN

RESEARCH PLANT PATHOLOGIST

Research Plant Pathologist position available at the USDA, ARS, New England Plant, Soil, and Water Laboratory located on the University of Maine campus in the area of foliar diseases. Incumbent will join a team of scientists whose overall research addresses the development of low-input, sustainable crop production and disease management systems. Primary research emphasis will be on *Phytophthora infestans* and the potato late blight disease. Research approaches may be at the population, organismal, cellular, or molecular levels and are expected to lead to field-based studies on improved practices for managing potato late blight and other foliar diseases as appropriate. *Candidates must be U.S. citizens*, and have a degree in plant pathology or a related scientific discipline. Salary ranges from \$38,593 to \$52,423 commensurate with experience. For application procedures call **Susan Bartly, Telephone: 207-581-3266** or download from the Internet at **website: www.ars.usda.gov**, **Job Opportunities**. Applications must be marked **ARS-X8N-8044R** and postmarked by November 20, 1998.

STAFF SCIENTIST POSITION NIMH/DIRP

The National Institute of Mental Health (NIMH) invites applications for a Staff Scientist position (five-year renewable appointment) in the Office of the Director, Division of Intramural Research Programs (DIRP). The candidate is expected to serve as the Associate Director for Science, and will function as consultant and advisor to the NIMH Scientific Director on virtually all matters related to the research activities and staff of the DIRP. Candidate must have a Ph.D. or M.D. degree and background experience in basic and clinical research administration and management. Applicants should send a curriculum vitae and three letters of recommendation by November 15, 1998, to the Chair of the Search Committee: **Barry Kaplan, Ph.D., NIH, NIMH, DIRP, Building 10, Room 4N-222, 9000 Rockville Pike, Bethesda, MD 20892. Telephone: 301-496-4183**. *The National Institutes of Health is an Equal Opportunity Employer.*

DIRECTOR COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS AND SURGEONS Center for Immunology

Columbia University College of Physicians and Surgeons invites nominations and applications from distinguished Immunologists for the position of Director of the Center for Immunology. This newly established Center will provide leadership and interdepartmental direction for all training and research opportunities in immunology at the College of Physicians and Surgeons. Please send a letter of nomination or application with a curriculum vitae and names of three references to: **Dr. Kathryn Calame, Chair, Immunology Search Committee, Department of Microbiology, Columbia University, 701 West 168th Street, New York, NY 10032**. *Columbia University is an Affirmative Action/Equal Opportunity Employer.*

DIVISION MANAGER PHYSIOLOGY INSTRUMENTS

Stoelting is seeking a self-starter to become our Division Manager-Physiology Instruments.

Responsibilities include new product development, providing expert applications information to customers, and full marketing responsibilities.

The ideal candidate should have a Master's or Ph.D. degree in one of the neurosciences, have extensive laboratory research experience, and be personable with a direct, innovative approach to work. Expert knowledge of animal stereotaxics, pipette pullers, and related products is essential. Salary open. Full benefits, including profit sharing. Please reply in confidence to: **Stoelting Company, Attn: Douglas Miller, 620 Wheat Lane, Wood Dale, IL 60191**.

We have two **POSTDOCTORAL POSITIONS** available to study the origin and evolution of new genes. Students from the fields of molecular evolution and molecular biology are encouraged to apply, but the candidates from other molecular-related biological areas will also be seriously considered. Send curriculum vitae and names of two references to: **Manyuan Long, Assistant Professor, University of Chicago, 1101 East 57th Street, Chicago, IL 60637. FAX: 773-702-9740; e-mail: mlong@midway.uchicago.edu; website: www2.uchicago.edu/bsd-ev.bio**.

POSITIONS OPEN

INSTRUCTOR/FELLOW UNIVERSITY OF COLORADO HEALTH SCIENCES CENTER

Division of Renal Diseases and Hypertension

NIH-supported **POSTDOCTORAL POSITION** available immediately to study the molecular pathogenesis of Gitelman's Syndrome. Present studies are investigating how mutations of the thiazide-sensitive NaCl cotransporter affect its expression and activity. Studies involve protein expression in *Xenopus* oocytes, site-directed mutagenesis, yeast two-hybrid assays, and other molecular techniques. Experience in biochemistry and molecular biology required, preferably related to membrane proteins.

Requirements: Ph.D. required.

Salary: Commensurate with experience.

Send curriculum vitae, statement of research interests, and names of three references to: **Administrator-DE, Division of Renal Diseases and Hypertension, C281, University of Colorado Health Sciences Center, 4200 East 9th Avenue, Denver, CO 80262. E-mail: david.ellison@uchsc.edu**.

No telephone calls please.

UCHSC is committed to Equal Opportunity and Affirmative Action.

POSTDOCTORAL POSITIONS

Positions available to study protein-protein interactions involved in regulating neuronal excitability the assembly and targeting of voltage-sensitive ion channels. The projects involve using biochemical, cell biological, molecular, and/or genetic approaches in the characterization of (1) interactions between subunits during ion channel assembly and biosynthetic processing, and (2) interactions of ion channels with cellular proteins important in determining function and localization. Current approaches involve dynamic studies of interactions in transfected cultured cells and primary neuronal cultures, characterization of channel-associated proteins in mammalian brain, and genetic and biochemical identification of novel, channel-associated proteins. Contact: **Dr. James S. Trimmer, Department of Biochemistry and Cell Biology, SUNY, Stony Brook, NY 11794-5215. E-mail: james.trimmer@sunysb.edu**. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION (NIH-funded) to study the role of the thalamic reticular nucleus (TRN) in attention, is available immediately in the Department of Physiology, University of Wisconsin-Madison. Background in systems neuroscience (especially visual) preferable. Experiments are focused on mechanisms responsible for the Fos-detected activation of the visual segment of the TRN in rats exploring a novel complex environment (*Neuroscience* 76:1061-1081, 1997). Send curriculum vitae, summary of research experience, and names of three references to: **Dr. Vicente Montero, 621 Waisman Center, 1500 Highland Avenue, Madison, WI 53705. FAX: 608-265-4103; e-mail: montero@waisman.wisc.edu; website: <http://www.waisman.wisc.edu/~montero/>**. *An Equal Opportunity Employer.*

RESEARCH ASSOCIATE position available immediately in the Department of Medicine, College of Human Medicine at Michigan State University to study 7-transmembrane receptor-G protein interactions. This is a temporary position on an annual year basis. Strong experience in molecular biological techniques is required. Applications due preferably by November 1, 1998. Send curriculum vitae and names of references to: **David Wenkert, Ph.D., M.D., Department of Physiology, Room 137D Giltner Hall, Michigan State University, East Lansing, MI 48824. E-mail: wenkert@psl.msu.edu**. Refer to position HM668. *Michigan State University is an Affirmative Action/Equal Opportunity Institution. Disabled persons have the right to request and receive reasonable accommodation.*

Innovative, ethical scientist sought by a national not-for-profit organization headquartered in Chicago to be **DIRECTOR** of Science Programs. Qualified candidate will have an M.D., D.V.M., Ph.D., or equivalent in life sciences or ethics. Required to critique the wasteful use of animals in research. Strong verbal, written, and research skills and an awareness of animal welfare issues. Working knowledge of nonanimal alternatives in research a plus. Competitive salary and benefits. Candidates should send a curriculum vitae and a short personal statement on the use of animals in research. Apply to: **The National Anti-Vivisection Society, 53 West Jackson, Chicago, IL 60604. Telephone: 312-427-6065; FAX: 312-427-6524; e-mail: navs@navs.org**.

MICHIGAN STATE UNIVERSITY

FACULTY POSITIONS IN BIOCHEMISTRY AND MICROBIOLOGY

CHROMATIN STRUCTURE, FUNCTION AND REGULATION The Department of Biochemistry at Michigan State University invites applications for a tenure-track position at the **ASSISTANT PROFESSOR** level in the general area of chromosome or chromatin structure, function or regulation. Applicants must have a Ph. D. and postdoctoral research experience that demonstrates productivity and gives evidence of potential for independent research. We seek to recruit a colleague who will complement existing research programs on transcription, replication, mutagenesis and repair, and recombination. The successful applicant will participate in the Program on the Biochemistry of the Cell Nucleus, an area of emphasis in the Biochemistry Department. Other areas of strength in the department include plant biochemistry and protein structure, function and design. Substantial research space will be available in a well-equipped building. The Department has vigorous graduate and postdoctoral training programs, and cooperates extensively with graduate training programs in Genetics and Cell and Molecular Biology as well as with the Cancer Center at MSU. Applicants should submit a curriculum vitae and a description of research accomplishments and future interests, and have three letters of recommendation sent on their behalf to Dr. William L. Smith, Chairperson, Department of Biochemistry, Box S, Michigan State University, East Lansing, MI 48824-1319. To ensure consideration, applications should be received by December 1, 1998. Further information about the Department of Biochemistry is available at www.bch.msu.edu.

CARCINOGENESIS The Department of Microbiology and the Cancer Center at Michigan State University invite applications for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. Outstanding applicants are sought who have a Ph. D. degree or equivalent, postdoctoral research experience and a record of excellence in research. The successful applicant is expected to establish a strong, extramurally funded research program in an area related to cancer genetics, cellular and/or molecular mechanisms underlying neoplastic transformation and/or tumor progression, growth factor- or hormone-regulated growth control. S/he will interact and collaborate with other members of the Cancer Center faculty. A strong commitment to undergraduate and graduate education is essential. Michigan State University has made major commitments to its new Cancer Center, which currently has active research programs in carcinogenesis, breast cancer, and control of gene expression and DNA replication. This academic appointment will be in the Department of Microbiology; a joint appointment in a clinical department can be arranged. A competitive package of start up funds will be provided. Applicants should send a curriculum vitae, a complete list of publications and external research support, a description of research interests, relevant reprints and preprints, and have three reference letters sent by December 1, 1998 to: Dr. Michele M. Fluck, Chair, Carcinogenesis Search Committee, Giltner Hall, Michigan State University, East Lansing, MI 48824-1101. Further information on relevant programs can be found at www.msu.edu/unit/mic/www-mic.html and www.ns.msu.edu/cmb.

*Michigan State University is an affirmative action / equal opportunity employer.
Candidates from groups underrepresented in academic science are encouraged to apply.*

Maine Medical Center is a 598-bed tertiary care and teaching institution with a multi-state referral base, located in Portland, Maine. This New England city has one of the country's most picturesque coastlines. It offers an exciting waterfront area, countless recreational activities and a wealth of cultural attractions. As the largest city in the state, Portland is exceptionally diverse and always exciting.

POSTDOCTORAL POSITIONS


CENTER FOR MOLECULAR MEDICINE

MAINE MEDICAL CENTER RESEARCH INSTITUTE

Postdoctoral positions are available to participate in developing novel agents that act on vascular endothelium leading to growth inhibition of tumors or accelerated repair at sites of injury. Basic science and drug development studies are envisioned. Applicants with experience in protein engineering, immunology, cell biology, molecular biology and related subjects are encouraged to apply.

Salary will be commensurate with level of experience of the applicant. Interested individuals should send a curriculum vitae and three letters of reference to: Dr. Philip Thorpe, Center of Molecular Medicine, Maine Medical Center Research Institute, 125 John Roberts Road, Suite #5, South Portland, ME 04106.

We are an equal opportunity employer strengthened by the diversity of our professional community.


Maine Medical Center
The Trusted Choice
The MaineHealth Family
An Affirmative Action Employer



PHARMACEUTICAL TOXICOLOGIST

Elan Pharmaceuticals was created by the acquisition of Athena Neurosciences, Athena Diagnostics, Neurex Corporation and Carrick Laboratories as a worldwide specialty pharmaceutical company focused on the discovery, development and commercialization of neurology, acute care and pain management products. As a growing subsidiary of Elan Corporation plc, we have consolidated a powerful niche market with 6 products in late clinical development and projected sales of more than \$250 million. This position, located in South San Francisco, offers you a vital opportunity in Elan Pharmaceuticals spirited, entrepreneurial environment.

In this pivotal role, you will provide safety evaluation support for in-house/in-licensed drug candidates, develop toxicology programs for small molecule and biological drugs, monitor contract GLP toxicology studies, review drug candidates for in-licensing, perform in-house non-GLP toxicology testing studies, and conduct investigational studies. You will also serve as the preclinical representative on drug development teams and write/review regulatory submissions. Candidates must possess a PhD in Toxicology or related discipline, with post-doc experience and/or 2+ years related experience. Familiarity with pharmaceutical preclinical development, domestic and international regulatory requirements, and pharmacokinetic studies are desired. DABT certification preferred, but not required.

We offer a compelling benefits program. Please respond with resume/c.v. and letter to: Elan Pharmaceuticals, Attn: Staffing/Job Code GS-1, 190 Independence Drive, Menlo Park, CA 94025. Email: efeene@neurex.com, fax: (650) 614-1061. Equal opportunity employer.


elan
pharmaceuticals

POSITIONS OPEN

NIH-funded **POSTDOCTORAL POSITIONS** available immediately at the Center for Advanced Research in Biotechnology (CARB) for Biochemists/Molecular Biologists with recent Ph.D.'s to join multidisciplinary team investigating molecular basis of antigen recognition by antibodies and T-cell receptors (TCRs). Projects include (1) study of antibody specificity by site-directed mutagenesis and phage display and (2) X-ray crystallographic and solution binding studies of recombinant TCRs, MHC molecules, and superantigens. (*Science* 267:1984, 1995; *Nature* 374:739, 1995; *Nature* 384:188, 1996; *Biochemistry* 35:9667, 1996; *Nature* 391:502, 1998; *J. Exp. Med.* 187:823, 1998). Experience in heterologous protein expression in bacterial and/or eukaryotic cells, or in BIAcore/sedimentation equilibrium/calorimetry, highly desirable. CARB is a joint research center of the National Institute of Standards and Technology and the University of Maryland. Excellent opportunities for collaborative studies with Crystallographers and Physical Biochemists. Send curriculum vitae and names of three references to: **Dr. Roy Mariuzza, Center for Advanced Research in Biotechnology, 9600 Gudelsky Drive, Rockville, MD 20850.** E-mail: mariuzza@indigo2.carb.nist.gov.

TWO POSTDOCTORAL POSITIONS DEPARTMENT OF CELL BIOLOGY Georgetown University Medical Center

Two positions are available immediately to study the regulation of the germ-line stem cells in the testis. The successful candidate in one position will examine genes involved in the renewal and/or differentiation of the stem cells. In the second position, the candidate will characterize the signaling pathways involved in the response of the stem cells to stem cell factor. A strong background in molecular biology and biochemistry is essential. Starting salary will depend on the level of experience. Send a cover letter, curriculum vitae, and names of three references to: **Dr. Martin Dym, Department of Cell Biology, Georgetown University Medical Center, 3900 Reservoir Road N.W., Washington, DC 20007.** Georgetown University is an Equal Opportunity and an Affirmative Action Employer.

POSTDOCTORAL POSITION available to study the mechanism of protein folding. Candidates should have a strong background in NMR and other spectroscopic techniques used for folding studies. Experience in site-directed mutagenesis would be useful. The role of the chaperonins in folding is also under study. Full descriptions of research work can be found at [website: http://www.biochem.wustl.edu/cflab](http://www.biochem.wustl.edu/cflab). Send curriculum vitae and names of references to: **Dr. Carl Frieden, Department of Biochemistry and Molecular Biophysics, Washington University School of Medicine, 660 South Euclid Avenue, Box 8231, St. Louis, MO 63110.** E-mail: frieden@biochem.wustl.edu.

An Equal Opportunity Employer.

POSTDOCTORAL FELLOW

Postdoctoral position to study the mechanism of pre-mRNA splicing. Work focuses on the human splicing proteins described in *Genes and Dev.* 11:139-151, 1997; *RNA* 3:1374-1387, 1997. Experience in molecular biology is essential; some experience in protein purification or *in vitro* RNA work desirable. Please send curriculum vitae including the names of three references to: **Dr. David Horowitz, Department of Biochemistry, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814.** Telephone: 301-295-3589; FAX: 301-295-3512; e-mail: dhorowitz@usuhs.mil.

POSTDOCTORAL POSITIONS to study the regulation of herpes virus gene expression *in vitro* and *in vivo*. The studies may include structure/function analysis of the viral regulatory proteins, the biochemistry of virus/host interactions, or the development of viral vectors. Applicants should possess a Doctoral degree in molecular genetics, biochemistry, or virology. Applicants should send a current curriculum vitae and list of references to: **Neal DeLuca, Ph.D., Professor, Department of Molecular Genetics and Biochemistry, E1257 Biomedical Science Tower, University of Pittsburgh School of Medicine, Pittsburgh, PA 15261.** E-mail: neal@hoffman.mgen.pitt.edu.

POSITIONS OPEN

POSTDOCTORAL FELLOWS in population biology. The Center for Population Biology (CPB) at University of California, Davis invites applications for two 1999 CPB Postdoctoral Fellowships in population biology, broadly defined to include systematics, ecology, population genetics, and evolution. The positions are for one year, with the possibility of extending to a second year, and can begin as early as February 1, 1999. The annual salary range is \$23,000 to \$25,000, depending on qualifications, plus up to \$2,500 per year for research support. The Fellows will be fully participating members in the Center for Population Biology, and are expected to have independent research programs that bridge the interests of two or more CPB laboratory groups. For more information about UCD programs in population biology, see our [website: http://www-evc.ucdavis.edu/popbio.htm](http://www-evc.ucdavis.edu/popbio.htm). Interested candidates should submit curriculum vitae, three letters of reference, a short (one- to two-page) description of research accomplishments, and a short (one- to two-page) description of proposed research to: **Center for Population Biology Fellow Search Committee, Center for Population Biology, University of California, One Shields Avenue, Davis, CA 95616-8755.** Evaluation of applications will begin on December 1, 1998. The University of California is an Affirmative Action/Equal Opportunity Employer with a strong institutional commitment to the development of a climate that supports equality of opportunity and respect for differences.

Gallo Clinic at University of California, San Francisco is seeking a **POSTDOCTORAL FELLOW** with experience in statistical biology, linkage analysis, association studies, mutation detection, and candidate gene screening. Postdoctoral Fellows should have a Ph.D. or M.D. in the appropriate areas of research, several years of experience in academic science or biotechnology, and be interested in carrying out independent and innovative research in an interdisciplinary team environment. Salary levels will be commensurate with experience. Please send curriculum vitae and cover letter to:

Kirk C. Wilhelmsen, M.D., Ph.D.
University of California, San Francisco Gallo Clinic
Building 1, Room 101
San Francisco General Hospital
San Francisco, CA 94110
E-mail: kirk@wildtype.ucsf.edu
FAX: 415-648-7116

POSTDOCTORAL POSITION CHILDREN'S HOSPITAL AND HARVARD MEDICAL SCHOOL

Position available immediately on a NIH grant for a Molecular Neurobiologist to study the role of cyclic nucleotide phosphodiesterases in the regulation of behavioral states. Send curriculum vitae, a letter describing research background and interests, and the names and telephone numbers of three references to: **Paul A. Rosenberg, M.D., Ph.D., Department of Neurology, Children's Hospital and Harvard Medical School, 300 Longwood Avenue, Boston, MA 02115.** Children's Hospital and Harvard Medical School are Equal Opportunity/Affirmative Action Employers.

POSTDOCTORAL RESEARCHER

Position available immediately to study signal transduction and gene expression related to the regulation of pancreatic islet cell growth. Candidates must have demonstrated expertise in one of the following areas: molecular biology, protein biochemistry, signal transduction, and *in vivo* animal studies. Send curriculum vitae and three references to: **Dr. Riccardo Perfetti, Division of Endocrinology and Metabolism, Becker Building Room 131, Cedars-Sinai Medical Center, 8700 Beverly Boulevard, Los Angeles, CA 90048.** FAX: 310-652-7987; e-mail: perfetti@csmc.edu. Equal Opportunity Employer/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to investigate DNA adduct formation by metabolites of Tamoxifen using *in vivo* models. Candidate should have demonstrated experience in measurement of DNA adducts, ³²P-postlabeling, and chemical synthesis and characterization of modified nucleotides or related compounds. Send curriculum vitae to: **Dr. W. J. Bodell, University of California, San Francisco, Box 0806, San Francisco, CA 94143-0806.** E-mail: bodell@itsa.ucsf.edu. UCSF is an Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITIONS

The Gwen Knapp Center is part of the newly formed Institutes of Molecular Medicine, and interdepartmental research organization located within The University of Chicago. Several projects are available immediately within this interactive and productive research center. The following projects under the direction of the listed Investigator are available immediately within this interactive and productive research center: **Craig Thompson:** T cell activation and apoptosis; **Phillip Ashton-Rickardt:** T cell memory; **Guido Franzoso:** Transcriptional regulation; **Steven Reiner:** Helper T cell differentiation; **Chung-Ru Wang:** MHC Class Ib molecules in T cell development. Competitive applicants must have demonstrated excellence in laboratory research. Reply by mail with curriculum vitae and the names of three references to: **Ms. Sarah Rose, Gwen Knapp Center for Lupus and Immunology Research, The University of Chicago, 924 East 57th Street, Room R413A, Chicago, IL 60637-5420.** Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION

A Postdoctoral position is available in the Division of Pulmonary, Allergy, and Critical Care Medicine at the College of Physicians and Surgeons of Columbia University to study aspects of cellular immunity associated with protection from infection and disease caused by *M. tuberculosis*. Such studies will involve genetic and functional analysis of the interactions between antigen-presenting cells and effector cells. Candidates should hold the Ph.D. or M.D. degree and have experience in immunology or cell biology. Please send a curriculum vitae, description of research interests and experience, and a list of references to: **Neil W. Schlager, M.D., Division of Pulmonary, Allergy, and Critical Care Medicine, Columbia University College of Physicians and Surgeons, VC 12-206, Box 91, 630 West 168th Street, New York, NY 10032.** Columbia University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP

Postdoctoral position is available in a translational research laboratory to study the cellular and molecular mechanisms associated with the pathogenesis of pediatric malignancies. Projects include the isolation of "mutator phenotype" clones from children with leukemia; genotoxic biomonitoring of environmental exposures; and the role of V(D)J-mediated rearrangements in the development of pediatric malignancies. Candidates must hold a Ph.D., M.D., or equivalent and a U.S. citizenship or permanent residency. Send curriculum vitae and three references to: **B. A. Finette, Ph.D., M.D., University of Vermont, Department of Pediatrics, Medical Alumni Building, Burlington, VT 05405.** FAX: 802-656-2077.

POSTDOCTORAL POSITION

Positions available in a multidisciplinary training program to study gene therapy for neurodegenerative disorders and spinal cord regeneration. Cell biology, molecular biology, gene therapy, and behavioral techniques are used to examine neuronal survival, synaptic plasticity, and functional recovery after overexpression of neurotrophins. Please address inquiries to: **Dr. George M. Smith, Department of Anesthesiology and Pain Management, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9068.** Telephone: 214-648-6410; FAX: 214-648-2229; e-mail: george.smith@emal.swmed.edu. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available in protein folding/molecular biophysics to investigate fiber formation in clinical amyloidosis. Biophysical techniques (optical, nuclear, and mass spectroscopies) will be applied to tissue-derived plaques and will complement ongoing *in vitro* research in the laboratory. Experience with biochemical purification techniques required. Send letter, curriculum vitae, reprints, and three references to: **Dr. A. Miranker, Department of Molecular Biophysics and Biochemistry, Yale University, P.O. Box 208114, New Haven, CT 06520-8114.** Yale University is an Affirmative Action/Equal Opportunity Employer.



**DEAN
COLLEGE OF SCIENCES
SAN DIEGO STATE UNIVERSITY**

San Diego State University is seeking an innovative and energetic academic leader to serve as Dean of the College of Sciences and create a twenty-first century College of Sciences for a highly dynamic and advancing university. The College of Sciences consists of the departments of astronomy, biology, chemistry, geological sciences, mathematics and computer sciences, physics, and psychology. The College also maintains 11 research centers and institutes, the Mt. Laguna Observatory, and over 7,000 biological sciences field station acres. The College's current grant and contract activity is over \$20 million, a substantial portion of which is NSF and NIH supported. The college offers 13 undergraduate degree programs, 12 Master's degree programs, and 5 joint doctoral degree programs with the University of California, and has 205 full-time faculty, 85 part-time faculty, and 104 staff and technical positions. The College supports a strong teacher/scholar model placing equal value on teaching and research. The College also strongly supports the education of its students through direct student involvement in faculty research projects.

The Dean of the College of Sciences reports to the Provost and Vice President for Academic Affairs and is a member of the Academic Deans' Conference. The Dean is the chief academic and administrative leader for the College with primary responsibility for its programs and future development. The Dean provides leadership for the college in the oversight of its instructional, research, and service programs; provides direction to and receives recommendations from appropriate college committees charged with curriculum and personnel responsibilities; and develops and administers the college's budget. (Additional information about the college is available at the College of Sciences website at <http://www.sci.sdsu.edu/cos/>).

San Diego State University is the largest of twenty-three campuses in the California State University system with a diverse student population of over 29,000 and over 2,000 faculty. SDSU is currently designated a Doctoral University II by the Carnegie Foundation and anticipates meeting the criteria for Research University II status in the near future. Having just celebrated its centennial year, SDSU offers Bachelor degrees in 76 areas, Master's in 54, and the doctorate in 10. (Additional information about the University is available at <http://www.sdsu.edu>).

Qualifications: An earned doctorate. Extensive administrative experience in a College of Sciences or allied discipline. Recognized scholarly and professional accomplishments. Dedication to excellence in education and research. Excellent leadership and interpersonal skills, capable of promoting collegiality and building consensus. Demonstrated ability to secure external financial support for instructional and research programs. A thorough knowledge and understanding of the management and operation of large research programs. The ability to build corporate partnerships in San Diego's vibrant technology-based business community. An ability to expand the college's international interests and efforts. An appreciation of diversity and an ability to work effectively in a multicultural campus and community setting. Willingness and ability to successfully undertake significant fund raising and advancement.

Applications/Nominations: Nominations are welcome. Candidates may apply directly by sending a letter of application, curriculum vitae, and the names, addresses, and phone/fax numbers of at least five references. References will only be contacted with permission of the candidate. Review of applications will begin immediately and continue until the position is filled. Preferred starting date is no later than July 1, 1999. Please send all communications to: **Office of the Provost/VPAA, Dean's Search Committee, College of Sciences, San Diego State University, San Diego, CA 92182-8010.** *SDSU is an Equal Opportunity, Title IX Employer and does not discriminate against persons on the basis of race, religion, national origin, sexual orientation, gender, marital status, age, or disability.*



Monterey Bay Aquarium Research Institute

POSTDOCTORAL FELLOWSHIPS

The Monterey Bay Aquarium Research Institute (MBARI) is seeking applicants for 2-year postdoctoral appointments in all areas of marine science and engineering. Founded in 1987 and supported by the David and Lucile Packard Foundation, MBARI is a nonprofit oceanographic research institute, dedicated to the development of state-of-the-art instrumentation, systems, and methods for scientific research.

Located in Moss Landing, California, the heart of the nation's largest marine sanctuary, MBARI emphasizes a balanced emphasis on science and engineering, with established programs in remotely operated vehicle (ROV) control technology, ocean physics, chemistry, geology, and biology, as well as information management and ocean instrumentation research and development. Fellowships may require occasional trips to sea.

MBARI's research center in Moss Landing, with a staff of 170 people, includes state-of-the-art science and engineering laboratories, as well as an operations facility to support its two research vessels. The Institute deploys a remotely operated vehicle to depths of 1,000 meters in the Monterey Bay for the purpose of scientific investigation, and recently launched a new advanced ROV, designed and built at the Institute, that takes unique research capabilities to depths of 4,000 meters.

Applicants should be recent Ph.D. recipients, or 1999 degree candidates. Applications should be received by January 31, 1999, and must include a curriculum vitae, at least three professional letters of recommendation, and succinct statements of both the applicant's doctoral research and the applicant's proposed research goals at MBARI. Selections will be announced by April 1, 1999. Please note that candidates must complete their Ph.D. degree prior to commencing the two-year appointment between October 1999 and March 2000.

To glimpse MBARI's current activities, please visit our World Wide Web page at <http://www.mbari.org>.

MBARI offers a competitive compensation package, including medical, dental, vision, and retirement benefits. First year salary is \$37,000; second year \$40,000. Interested individuals should address applications to: **MBARI, Postdoc-99, P.O. Box 628, Moss Landing, CA 95039-0628.**

E.O.E. MBARI Welcomes Diversity.

POSITIONS OPEN

POSITIONS IN TOMATO GENOME ANALYSIS

POSTDOCTORAL and GRADUATE STUDENTS. Multiple positions are immediately available for participation in a multi-institutional effort on tomato genomics. Research will be conducted at Cornell, the Boyce Thompson Institute, and Texas A&M, and in collaboration with The Institute for Genome Research (TIGR). Objectives include development of tomato DNA chips (BTI, TAM), genome-wide expression analysis during fruit development (TAM, C) and in response to pathogens (BTI), and tomato-*Arabidopsis* synteny analysis (C). Competitive salary and benefits packages included. Inquiries should be directed to one of the following: **Steve Tanksley, Plant Breeding, Cornell University, Ithaca, NY 14853. E-mail: sdt4@cornell.edu.** **Greg Martin, Boyce Thompson Institute, Cornell University, Ithaca, NY 14853. E-mail: gbm7@cornell.edu.** **Jim Giovannoni, Crop Biotechnology Center, Texas A&M University, College Station, TX 77843-2133. E-mail: jgg@unix.tamu.edu.**

SENIOR STAFF SCIENTIST. Bioinformatics. A Ph.D. with expertise and experience in bioinformatics is sought for an immediately available opening. The position will coordinate multi-institutional collection, analysis, and dissemination of genomics information related to identity and expression of tomato ESTs and physical-genetic relationships between tomato and *Arabidopsis*. Salary will be commensurate with experience and highly competitive. Inquiries should be directed to **Steve Tanksley** at the above address. *All units involved are Equal Opportunity Employers and women and minorities are especially encouraged to apply.*

PREDOCTORAL and POSTDOCTORAL POSITIONS on an NIH-funded Interdisciplinary Training Grant are available to individuals interested in intracellular signaling, gene transcription, mitogenesis, lipid metabolism, and several other biological processes involved in a variety of cardiovascular diseases. Candidates will have the opportunity to work in the laboratory of one of the 13 Preceptors in the Departments of Biochemistry, Medicine, Pharmacology, and Physiology and Biophysics. Visit our website: <http://www.utm.edu/pharmacology/training> for each Preceptor's research interests. *Applicants must be U.S. citizens or permanent residents.* Postdoctoral candidates must have a M.D. and/or Ph.D. degree in one of the biological sciences. Send résumé with names of three references to: **Dr. Tarun B. Patel, Department of Pharmacology, University of Tennessee, Memphis, 874 Union Avenue, Memphis, TN 38163. FAX: 901-448-7300. UT is an Equal Employment Opportunity/Affirmative Action/Title IX/Section 504/ADA Employer. Minorities and women are especially encouraged to apply.**

POSTDOCTORAL POSITIONS are now available in the Sealy Center for Molecular Cardiology for the study of gene regulation in vascular cells and for the study of DNA damage and mitochondrial function in cardiovascular disease. Positions require experience in molecular biology, PCR, DNA/RNA techniques, cell culture, and protein purification and expression. Starting salaries are generous and commensurate with experience. Positions are available with the following Principal Investigators: **Scott Ballinger, Ph.D.:** mitochondrial DNA damage; **Cam Patterson, M.D.:** gene regulation in vascular cells.

Send curriculum vitae and names of three references to: **Dr. Scott Ballinger, Sealy Center for Molecular Cardiology, University of Texas Medical Branch, 301 University Boulevard, 9.138 Medical Research Building, Galveston, TX 77555-1064. E-mail: swballin@utmb.edu. UTMB is an Equal Opportunity/Affirmative Action/Minority/Female/Disabled/Veteran Employer.**

POSTDOCTORAL POSITION to investigate the mechanisms of action of insulin and growth factors. The laboratory uses a variety of contemporary molecular and biochemical methods to investigate signal transduction pathways involved in the control of glycogen synthesis and mRNA translation. Experience in these areas is desirable, but not essential. *Both foreign and domestic applicants at the Ph.D. level will be considered.* Salary US\$24,000 to \$28,000, depending on qualifications.

To apply, send a cover letter and résumé to:

Dr. John C. Lawrence
Department of Pharmacology
University of Virginia Health Science Center, Box 448
1300 Jefferson Park Avenue
Charlottesville, VA 22908
E-mail: jcl3p@virginia.edu

Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

FIVE POSTDOCTORAL RESEARCH POSITIONS LABORATORY OF MOLECULAR PATHOLOGY The University of Texas Southwestern Medical Center at Dallas

Seeking scientists with expertise in molecular and cellular immunology, molecular biology, or biochemistry. For further information see our departmental website: <http://pathcuric1.swmed.edu>.

Or FAX curriculum vitae to: **Margaret, FAX: 214-648-4067. An Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS

Available in the following laboratories studying cell signaling pathways controlling growth and differentiation. Consult DBC website: <http://mamba.bio.uci.edu/~pjbryant/dbc/index.htm> for details of research and links to home pages. (1) **Dr. Peter J. Bryant** (Developmental and Cell Biology) Telephone: 949-824-4714. FAX: 949-824-3571; e-mail: pjbryant@uci.edu; role of growth factors and tumor suppressors in cell proliferation control in *Drosophila*; (2) **J. Lawrence Marsh** (Developmental and Cell Biology) Telephone: 949-824-6677; e-mail: jlmarsh@uci.edu; molecular genetics of development in *Drosophila* and humans; (3) **Kavita Arora** (Developmental and Cell Biology) Telephone: 949-824-1087; e-mail: karora@uci.edu; *Drosophila* development; TGF- β signal transduction; cell signaling; (4) **Marian Waterman** (Microbiology and Molecular Genetics) Telephone: 949-824-2885; e-mail: mlwaterm@uci.edu; regulation of transcription and nuclear transport in human T lymphocytes; (5) **Randall Holcombe** (Hematology/Oncology) Telephone: 714-456-5153; e-mail: rhcolomb@uci.edu; transcriptional regulation and control of intracellular signaling related to human and mammalian carcinogenesis; (6) **Diane O'Dowd** (Developmental and Cell Biology) Telephone: 949-824-4562; e-mail: dkodowd@uci.edu; electrical excitability and synaptic connectivity during development; (7) **Susan V. Bryant** (Developmental and Cell Biology) Telephone: 949-824-7402; e-mail: svbryant@uci.edu or **D. M. Gardiner**, e-mail: dmgardin@darwin.bio.uci.edu; functional analysis of wound healing and appendage regeneration in amphibians and chicks, or the molecular mechanisms of environmentally induced malformations in amphibians; (8) **Bruce Blumberg** (Developmental and Cell Biology) Telephone: 949-824-8573; intercellular signaling processes during vertebrate development; (9) **Murray Korc** (Endocrinology, Diabetes and Metabolism) Telephone: 949-824-6887; e-mail: mkorc@uci.edu; molecular alterations and growth factor signaling in human pancreatic cancer; (10) **Arthur D. Lander** (Developmental and Cell Biology) Telephone: 949-824-1008; e-mail: adlander@uci.edu; molecules that control motile cell behaviors such as axon growth and cell migration during development and regeneration.

Contact: **Peter J. Bryant, Director, Developmental Biology Center, University of California, Irvine, CA 92697. UCI is an Equal Opportunity Employer committed to excellence through diversity.**

Immediate two openings at **POSTDOCTORAL LEVEL and JUNIOR FACULTY** for Cellular and Molecular Immunologist to work on multiple sclerosis research. Salary based on qualifications (\$23,000 to \$60,000). Please send curriculum vitae to: **Oregon Health Sciences University, Neuroimmunology Research R&D—31, Portland VA Medical Center, 3710 S.W. U.S. Veterans Hospital Road, Portland, OR 97201. OHSU is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP available immediately for ongoing NIH-sponsored studies to investigate unusual DNA topoisomerases in African trypanosomes. Interested applicants with a Ph.D. and background in biochemistry, molecular biology, or pharmacology should send a curriculum vitae plus names and telephone numbers of three references to: **Dr. Terry Shapiro, Johns Hopkins School of Medicine, 725 North Wolfe Street, Baltimore, MD 21205. FAX: 410-955-2634; e-mail: tsapiro@bs.jhmi.edu.**

POSITIONS OPEN

POSTDOCTORAL FELLOW DEPARTMENT OF PATHOLOGY SCHOOL OF MEDICINE

Description: Postdoctoral position in research laboratory with active and collaborative team of Investigators with multiple NIH-funded projects. The focus of the research is on the hematological outcomes and cellular immunology associated with HIV/AIDS using a nonhuman primate model. The individual in this position will assist in the supervision of technical staff, help oversee the day-to-day operations of the laboratory program, collaborate with the Principal Investigator and other scientists on the project, as well as be capable of working independently on assigned research topics to a significant extent.

This position will involve the analysis, using a simian model of HIV, of the site and burden of infection in the blood and bone marrow, the functional defects of the cell population, and mechanisms of such defects, as well as the effects of various cytokines on hematopoiesis in this model. The experimental approaches involve hematologic, virologic, and immunologic assays, including PCR, RT-PCR, cell culture, flow cytometry, EIA, Western blots, and cytokine assays. Preference will be given to candidates with experience in these techniques as well as background in related areas of virology, molecular biology, and/or immunology.

Minimum: Candidate should possess a Ph.D. or equivalent in immunology, microbiology, molecular biology, or a related discipline. Prior postdoctoral experience of one to two years, plus previous supervisory experience, is required.

Contact: Initial appointment is for two years. Please send letter of interest and curriculum vitae to: **Dr. Christopher D. Hillyer, Associate Professor, Emory University Hospital Blood Bank, 1364 Clifton Road N.E., Atlanta, GA 30322.**

Emory University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS IN DEVELOPMENTAL BIOLOGY

Two positions are available to study the role of transcription factors in development and disease. One aspect of the work will focus on the role of the AP-2 gene family in the regulation of early mouse embryogenesis, and the other will examine the influence of these transcription factors on mammary gland development. The positions require experience in one or more of the following areas: mouse molecular genetics, cell biology, developmental biology, and/or mammary gland biology.

Send curriculum vitae and names of three references to: **Dr. Trevor Williams, Department of Molecular, Cellular, and Developmental Biology, Yale University, P.O. Box 208103, New Haven, CT 06520-8103. E-mail: twill@biomed.med.yale.edu. Yale University is an Affirmative Action/Equal Opportunity Employer. Women and members of minority groups are urged to apply.**

POSTDOCTORAL POSITIONS IN MOLECULAR MICROBIOLOGY AND VECTOR BIOLOGY

University of North Carolina at Chapel Hill

One or two Postdoctoral positions are available to study the molecular basis of arthropod vector-borne disease transmission. Current projects focus on differential gene expression by the Lyme disease spirochete and the interactions between the spirochete and the *Ixodes* tick vector. Previous experience in molecular microbiology or vector biology is desirable. Send curriculum vitae and the names of references to: **Dr. Aravinda de Silva, Department of Microbiology and Immunology, CB# 7290, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599. E-mail: aravinda_desilva@med.unc.edu. The University of North Carolina at Chapel Hill is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION

A Postdoctoral position is immediately available to study the tau protein kinase and phosphatase activities in the rat heat shock model (*PNAS* 94:6612, 1997). Experience in biochemistry and enzymatic assays is required. Send curriculum vitae and three references to: **Sozoz Ch. Papasozomenos, M.D., University of Texas—Houston Medical School, 6431 Fannin, Houston, TX 77030. Telephone: 713-500-5340; FAX: 713-500-0730; e-mail: papas@casper.med.uth.tmc.edu. The University of Texas is an Equal Opportunity Employer. Women and minorities are encouraged to apply.**



Computational Chemist

**Your Chance for future:
Computational Chemist at
Hoechst Marion Roussel**



Hoechst Marion Roussel researches and develops innovative drugs for major clinical areas to improve human health. We are looking for a Computational Chemist to join our Molecular Modeling group. Members of this group work closely with synthetic, structural and biophysical chemists in lead generation and optimization.

Successful candidates will possess a PhD in Chemistry or a related discipline. The background must include experience in at least one of the following areas:

structure-based design, ligand-based design and experimental design. Strong

Hoechst Marion Roussel

communication skills with the ability to work in multidisciplinary teams are essential.

For prompt, confidential consideration, we invite you to send a resume along with letters of references to:

*Hoechst Marion Roussel
Deutschland GmbH*

*Frau Andrea Michael
Industriepark Höchst,*

*Gebäude K 607
D-65926 Frankfurt
Germany*

Hoechst ■

Hoechst Marion Roussel
The Pharmaceutical Company of Hoechst

Bioinformatics and Molecular Evolution 2 to 4 year positions

Postdoctoral and doctoral positions available immediately to join a functional genomics research team developing a new project on the inventory, evolution, and functional analysis of membrane transporters. Starting from our pilot database YTPdb, the successful postdoctoral candidate will build and combine information technology tools to create an exhaustive and permanently up-to-date database of cellular transporters in order to extract genome-based biological information.

The successful doctorate candidate will investigate the evolutionary relationships among members of cellular transporter gene families and will sequence orthologous sequences in specific prokaryote and eukaryote groups.

Candidates should demonstrate a clear interest for molecular data and evolution, and have a strong experience of pattern matching, databank similarity searches, and phylogeny inference (familiarity with RDBMS is an advantage).

Other members of the research team are bench molecular biologists, bioinformaticians, and phylogeneticists. Location: initially in Brussels and, from next summer, in new molecular biology institute 40 km South of Brussels.

Send detailed CV to **Bruno ANDRE**, Université Libre de Bruxelles, Department of Molecular Biology, cp 244, 50 av. Roosevelt, Brussels B1050 Belgium. Tel: 32-2-6505411 Fax: 32-2-6505421 E-mail: bran@ulb.ac.be. Project available upon specific request.

FACULTY OF SCIENCE

Professor of Biology

Applications are invited to fill a Chair in Biology to replace Professor Steven Rose who retires in September 1999.

You should have an excellent research record of publications and grants, and be committed to strengthening the Departments' position in the forthcoming Research Assessment Exercise. Your interests should complement the existing research strengths of the Department, which include Neuroscience and Behaviour.

We are seeking a Biologist who will take a leading role in the development of the Biology curriculum which includes developments in Health and Human Sciences and Environmental Science. You will be expected to act as head of the Biology Department in rotation with other appropriate senior staff in the Department.

Salary will be in the professorial range minimum £35,170 according to academic attainment and experience.

This post is based in Milton Keynes. Informal enquiries can be made to Dr Mike Stewart, current Head of the Biology Department, on Milton Keynes (01908) 653448 or e-mail:

m.g.stewart@open.ac.uk Further particulars of the post and the application process can be obtained from Nicola Brown in the Science Deanery, Science Faculty, the Open University, Walton Hall, Milton Keynes MK7 6AA, telephone Milton Keynes (01908) 653184, or e-mail: science-recruitment@open.ac.uk

Closing date for applications: 20 November 1998.



Disabled applicants whose skills and experience meet the requirements of the job will be interviewed. Please let us know if you need your copy of the further particulars in large print, on computer disk, or on audio cassette tape. Hearing impaired persons may make enquiries on Milton Keynes (01908) 654901 (Minicom answerphone).

Equal Opportunity is University Policy.

<http://watt.open.ac.uk/personnel/emp/pr.htm>

POSITIONS OPEN

POSTDOCTORAL POSITION AT EMORY ACE AND BLOOD PRESSURE CONTROL

An NIH-funded Postdoctoral position available to study the role of angiotensin converting enzyme (ACE) in blood pressure control and renal development. Mice with an ACE knockout present with an extremely low blood pressure, a developmental defect of the renal medulla, the inability to concentrate urine, and an abnormality of glucose handling (*Lab Invest.* 74:953-965, 1996; *JCI* 99: 2375-2385, 1997). The project will be to create and study mice, made using homologous recombination, that express ACE in selected tissues, and in this fashion to investigate the origins of the ACE knockout phenotype. This is a wonderful project for someone interested in physiology or cell biology. Reply to: **Ken Bernstein, Department of Pathology, Emory University, Atlanta, GA 30322.** E-mail: kbernst@emory.edu.

Emory is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS are available immediately to study signal transduction mechanisms of cell activation and apoptosis in lymphocytes and cancer cells. Research focuses on kinases and phosphatases regulating Rel/NFκB, stress-activated JNK and HPK1 signaling pathways. Website: <http://condor.bcm.tmc.edu:80/Micro-Immuno/faculty/tan.html>. Most advanced mass spectrometric techniques (PNAS 94:8503-8508; *Anal. Chem.* 70:2050-2059) will be used in the studies. Strong background in molecular biology/biochemistry and recent Ph.D. is required. Send curriculum vitae and three references to: **Dr. Tse-Hua Tan or Dr. Jun Qin, Department of Microbiology and Immunology or Department of Biochemistry, Baylor College of Medicine, Houston, TX 77030.** Baylor College of Medicine is an Affirmative Action/Equal Opportunity/Equal Access Employer.

POSTDOCTORAL POSITION DIVISION OF ADULT ONCOLOGY DANA-FARBER CANCER INSTITUTE

The Dana-Farber Cancer Institute currently has the following position available: Postdoctoral position. You will study the mechanism by which nitric oxide inhibits apoptosis. Experience in molecular biology, biochemistry, and cell biology preferred. Candidates seeking flexible working hours are encouraged to apply.

Send curriculum vitae and names of three references to: **Dr. Joan Mannick, Division of Adult Oncology, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.** FAX: 617-632-4257; e-mail: joan_mannick@dfci.harvard.edu.

ASSOCIATE RESEARCH SCIENTIST/ POSTDOCTORAL RESEARCH SCIENTIST COLUMBIA UNIVERSITY

Positions available immediately for recent Ph.D. with training in cell and molecular biology to work on projects involving (1) mechanisms of neoplastic transformation and immortalization of mammalian and human cells, (2) endothelial cell proliferation and neovascularization. Send curriculum vitae, reprints, and names of three references to: **Dr. Eric J. Hall, Director, Center for Radiological Research, Columbia University, 630 West 168th Street, New York, NY 10032.** An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWS at the Beckman Research Institute on the City of Hope Campus. Seeking two highly motivated candidates to develop lentiviral vector research and apply it to animal models of human diseases. Candidates should be a Ph.D./M.D. and have a strong background in molecular biology and virology. Experience in handling lentiviruses is helpful but not absolutely required. Both positions are funded for three years and available immediately. Send curriculum vitae and contact information of three references to: **Dr. Jiing-Kuan Yee, Department of Molecular Biology, City of Hope, National Medical Center, 1500 East Duarte Road, Duarte, CA 91010-3000.** FAX: 626-301-8280.

POSTDOCTORAL POSITION available in molecular hematology (see website: <http://dbbs.wustl.edu/rib/bessler.html>). Experience in bone marrow culture and/or molecular biology preferred. Send curriculum vitae to: **M. Bessler, M.D., Ph.D., Washington University School of Medicine, Division of Hematology, 660 South Euclid Avenue, Box 8125, St. Louis, MO 63110.** E-mail: mbessler@im.wustl.edu.

POSITIONS OPEN

POSTDOCTORAL POSITION AT YALE UNIVERSITY MEDICAL SCHOOL

A joint Postdoctoral position is immediately available in the Department of Pharmacology and the Section of Urology, Yale University School of Medicine, to study nitric oxide transduction mechanisms in prostate cancer and other disease processes affecting the urinary tract. Applicants must have a Ph.D. and/or M.D., be a U.S. citizen or a permanent U.S. resident, have a desire ultimately for an academic career, and have some experience with pharmacological, cell, and/or molecular biological techniques.

Applications should be sent to:

William C. Sessa, Ph.D.
Yale University School of Medicine
Boyer Center for Molecular Medicine
295 Congress Avenue
New Haven, CT 06536

or to:

Robert M. Weiss, M.D.
Section of Urology
Yale University School of Medicine
P.O. Box 208041
New Haven, CT 06520-8041

Yale University is an Equal Opportunity/Affirmative Action Employer. Qualified women and minority group members are encouraged to apply.

POSTDOCTORAL POSITIONS are available to study the molecular mechanisms of ion channel regulation by tyrosine phosphorylation. Candidates should have experience in patch clamp recording. Experience in molecular biology is desirable, but not essential. Candidates will receive training in methods of molecular and cell biology to complement their skills in electrophysiology. Please send a curriculum vitae and the names of three references to: **Dr. Todd C. Holmes, Ph.D., Department of Biology, 1009 Main Building, 100 Washington Square East, New York, NY 10003.** FAX: 212-995-4015; e-mail: todd.holmes@nyu.edu. NYU encourages applications from women and members of minority groups.

POSTDOCTORAL POSITION available to study the molecular mechanism of glucocorticoid receptor gene expression. This position requires experience in Western and Northern blotting techniques and experience in recombinant DNA technology, promoter analysis, and reporter gene assays. Send curriculum vitae and the names, addresses, and telephone numbers of three references to: **Wayne V. Vedeckis, Ph.D., Department of Biochemistry and Molecular Biology, Louisiana State University Medical Center, 1901 Perdido Street, New Orleans, LA 70112.** Telephone: 504-568-8175; FAX: 504-568-6997; e-mail: wvedec@lsuvmc.edu. LSU is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW/ RESEARCH ASSOCIATE University of Colorado Health Sciences Center

To focus on the mechanism of action of hematopoietic growth factors and to examine inhibition of differentiation by specific oncogenes using cell culture and ES technology. Experience in molecular/cellular biology is highly desirable. Send curriculum vitae and the names of three references to: **Dr. Andrew S. Kraft, Division of Medical Oncology, 4200 East 9th Avenue, Denver, CO 80262.** FAX: 303-315-5502.

UCHSC is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION is available immediately to study the role of mossy fiber synaptic reorganization in epilepsy. Experience with cellular electrophysiological techniques is highly desirable. Send a curriculum vitae and names of three references to: **Dr. J. Victor Nadler, Department of Pharmacology and Cancer Biology, Box 3813, Duke University Medical Center, Durham, NC 27710.** E-mail: nadle002@acpub.duke.edu.

Duke University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately. The project is to make transgenic mice and to study protein interactions related to mutant gene expression. The position is for three years. Applicants should have experience in molecular biology techniques. Send curriculum vitae and names of references to: **Dr. Yibing Li, Department of Neurosurgery, University of California, San Francisco, CA 94143-0520.** E-mail: ybli@itsa.ucsf.edu.

POSITIONS OPEN

POSTDOCTORAL POSITION AT EMORY TISSUE-SPECIFIC CELL SIGNALING

An NIH-funded Postdoctoral position available to study tissue-specific cell signaling. Angiotensin II is a peptide that acts to raise blood pressure through several different physiological mechanisms (vasoconstriction, aldosterone release, salt reabsorption, etc.). The different responses are triggered in individual tissues after ligand binding to a single receptor (*Nature* 375:247-250, 1995). This raises the question of how a single ligand binding to a single receptor can induce tissue-specific responses. This is a wonderful project for someone interested in biochemistry, physiology, or cell biology. Reply to: **Ken Bernstein, Department of Pathology, Emory University, Atlanta, GA 30322.** E-mail: kbernst@emory.edu.

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ACADEMIC POSITION ANNOUNCEMENTS UNIVERSITY OF CALIFORNIA, IRVINE SCHOOL OF BIOLOGICAL SCIENCES

Occasional openings for academic **RESEARCHERS, POSTDOCTORALS, SPECIALISTS, and LECTURERS** in our Departments of Developmental and Cell Biology, Ecology and Evolutionary Biology, Molecular Biology and Biochemistry, and Psychobiology, are posted on our website: <http://www.bio.uci.edu/>. Inquiries may also be sent by FAX to: **J. Swenson, School of Biological Sciences, University of California, Irvine, FAX: 949-824-7407.**

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POSTDOCTORAL POSITION available to study the eukaryotic RNA polymerase II holoenzyme. The laboratory is part of a dynamic scientific community on a shared campus with Rutgers University, located in a suburban setting 20 miles from New York City. Salary is competitive and commensurate with experience. Send curriculum vitae, with three letters of recommendation, to: **Dr. Nancy Woychik, Department of Molecular Genetics and Microbiology, University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, NJ 08854-5635.** FAX: 732-235-5037; e-mail: woychina@umdnj.edu. UMDNJ is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately to study immune correlates of vaccine-induced protection of macaques in the simian model of HIV-1 disease. Experience in T cell immunology is required. Experience with TCR and tetramer technology would be a preference. Please FAX or mail your curriculum vitae, statement of research interests, and three references to: **Dr. Opendra Narayan and/or Dr. A. Kumar, University of Kansas Medical Center, Department of Microbiology, Molecular Genetics and Immunology, 5000 WHE, 3901 Rainbow Boulevard, Kansas City, KS 66160.** E-mail: akumar@kumc.edu. The University of Kansas Medical Center is an Affirmative Action/Equal Employment Opportunity Employer.

POSTDOCTORAL POSITIONS THE UNIVERSITY OF MICHIGAN MEDICAL CENTER

Postdoctoral positions are available immediately to study molecular mechanisms of HIV disease pathogenesis with a particular emphasis on HIV immune evasion. A strong background in molecular and cellular biology is desired. Please send or FAX curriculum vitae and three references to: **Kathleen Collins, M.D., Ph.D., 4301 MSRB III, Box 0638, 1150 West Medical Center Drive, Ann Arbor, MI 48109.** FAX: 734-763-7672. The University of Michigan is an Equal Opportunity/Affirmative Action Employer.

We seek two **POSTDOCTORAL RESEARCH ASSOCIATES** to join a National Science Foundation plant genome project to characterize plant centromere structure and function, using tetrad analysis to guide centromere cloning in *Arabidopsis* and *Chlamydomonas*. Functional analysis of centromeres will be performed in both native and artificial plant chromosomes. Positions are available in molecular cloning of *Chlamydomonas* centromeres, and comparative analysis of *Arabidopsis* centromere sequences. A strong background in molecular biology is essential. Contact: **L. Mets or D. Preuss, University of Chicago, 1103 East 57th Street, Chicago, IL 60637.** Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIPS

Two immediate openings in NIH-supported training program in kidney diseases. Fellows (M.D. or Ph.D.) can choose from at least 14 mentors studying biochemistry, cell biology, molecular biology, genetics, and epidemiology of chronic progressive renal diseases. Emphasis is on diabetes, hypertension, and lupus nephritis.

The Medical University of South Carolina has a growing research funding base and a commitment to fostering research. Because South Carolina has the nation's highest incidence of end-stage-disease, a better understanding of ESRD is a high priority for us.

Should have Ph.D., M.D., or equivalent, be eligible for NIH support, and have commitment to a career in basic clinical investigation. Send curriculum vitae, cover letter, and three references to: **John Raymond, M.D., Room 829 Clinical Science Building, 171 Ashley Avenue, Charleston, SC 29425-2227.**

Opportunities are also available for coordinated clinical training in clinical pharmacology, endocrinology, nephrology, or other medical specialties, or to obtain a Master's degree in biometry/epidemiology. *Equal Opportunity Employer/Affirmative Action.*

POSTDOCTORAL POSITION AT EMORY THE REGULATION OF GENE EXPRESSION

An NIH-funded Postdoctoral position available to study endothelial-specific gene regulation. Endothelial cells are a major physiologic source of somatic ACE, an enzyme intimately involved in blood pressure regulation. This gene product is produced only when endothelia are confluent and nonproliferative. When endothelial cells are growing, they make no ACE. We have developed new methodology that will permit the analysis of the transcriptional changes that result from nonproliferation and lead to ACE expression. This is a project that may contribute greatly to an understanding of the biochemistry of nonproliferation. Reply to: **Ken Bernstein, Department of Pathology, Emory University, Atlanta, GA 30322. E-mail: kbernst@emory.edu.**

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POSTDOCTORAL FELLOW POSITION

A Postdoctoral Fellow position is available immediately to study the molecular mechanism of tumor angiogenesis. The candidate should have a Ph.D. degree in biochemistry or molecular biology. The research focuses on the mechanism of action of a novel negative regulator of angiogenesis specifically expressed by endothelial cells. Send curriculum vitae and names and addresses of three references to: **Dr. Luyan Li, Georgetown University Medical Center, RB/E301, 3970 Reservoir Road N.W., Washington, DC 20007. E-mail: lilu@gunet.georgetown.edu.**

POSTDOCTORAL POSITION immediately available for NIH-funded research to study the molecular mechanisms of trophoblast differentiation and human placental lactogen gene expression. Ph.D. or M.D. with experience in molecular biology required. Send curriculum vitae, description of research experience, and names of three references to: **Dr. Stuart Handwerger, Division of Endocrinology, Children's Hospital Research Foundation, 3333 Burnet Avenue, Cincinnati, OH 45229-3039. E-mail: stuart.handwerger@chmcc.org.**

Children's Hospital Research Foundation is an Equal Opportunity Employer.

POSTDOCTORAL POSITION available to study the mechanisms of biosynthesis of hydrocarbons. Experience in biochemistry, molecular and cell biology is required. Send curriculum vitae, description of research interests, and list of three references with telephone and e-mail to: **Dr. P. E. Kolattukudy, Neurobiotechnology Center, The Ohio State University, 206 Rightmire Hall, 1060 Carmack Rd., Columbus, OH 43210. FAX: 614-292-5379; Telephone: 614-292-5670; e-mail: kolattukudy.2@osu.edu. The Ohio State University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to investigate the molecular mechanisms of gamma-herpesvirus (EBV and KSHV) oncogenesis in humans. Candidates should have a Ph.D. or M.D. degree. Please send curriculum vitae and three letters of reference to: **Erle S. Robertson, Ph.D., Department of Microbiology and Immunology, University of Michigan Medical School, 1150 West Medical Center Drive, 6724 MSII, Ann Arbor, MI 48109-0620. Telephone: 734-647-7296; e-mail: esrobert@umich.edu.**

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIP NEUROBIOLOGY OF DISEASE

This new, integrated, multidisciplinary program provides training opportunities for young M.D./Ph.D. scientists who desire careers as independent Investigators in the challenging fields of neurodegenerative diseases, viral infections of the nervous system, and other neurological/psychological illnesses. Our faculty use cellular, molecular, and biochemical strategies to examine issues related to these disorders in *in vitro* model systems, in transgenic and gene-targeted mice. In addition, our group is committed to behavioral studies and experimental therapeutics in the *in vivo* models. Prior experience in cellular/molecular neurobiology is preferred. Recently funded by the NINDS, several positions are available immediately. The Program Director is **Dr. Donald L. Price** (Co-Directors **Dr. John Griffin** and **Dr. Richard Haganir**). Send curriculum vitae and three references to: **Dr. Donald L. Price, Johns Hopkins University, 558 Ross Building, 720 Rutland Avenue, Baltimore, MD 21205-2196.**

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POSTDOCTORAL RESEARCH POSITIONS IN MICROBIOLOGY American Society for Microbiology/ National Center for Infectious Diseases

Positions are available for Postdoctoral Scientists to conduct novel research with the overall objective of developing practical applications of microbiology, immunology, and epidemiology for diagnosis and prevention of infectious diseases. Associates will perform research in residence at the National Center for Infectious Diseases, which is headquartered at the Centers for Diseases Control and Prevention in Atlanta, Georgia.

Deadline for applications is November 15, 1998. Website: <http://www.asmusa.org/edusrc/edu23c.htm>; e-mail: fellowships-careersinformation@asmusa.org.

ANNOUNCEMENT

U.S. POSTAL SERVICE

Statement required by the Act of 12 August 1970, Section 3685, Title 39, United States Code, showing the ownership, management, and circulation of:

1-9. *Science*, Publication No. 0036-8075, is published weekly on Friday, except the last week in December, at 1200 New York Ave., NW, Washington, DC 20005. Date of filing: 28 September 1998. This is also the address of the publisher, the editor, and the managing editor, who are, respectively, Richard S. Nicholson, Floyd Bloom, and Monica M. Bradford.

10. The owner is the American Association for the Advancement of Science, 1200 New York Ave., NW, Washington, DC 20005. Stockholders: None.

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I certify that the statements made by me above are correct and complete. (signed) *Marlene Zendell*, Deputy Director, Membership/Circulation.

POSITIONS OPEN

POSTDOCTORAL POSITION MAMMALIAN SPERM PHYSIOLOGY

Challenging opportunity to study cryopreservation and IVF with sexed semen. Previous experience with sperm physiology or IVF essential. Send application and have three letters of recommendation sent to: **George Seidel, Animal Reproduction and Biotechnology Laboratory, Colorado State University, Fort Collins, CO 80523. E-mail: gseidel@cvmbs.colostate.edu. CSU is an Equal Employment Opportunity/Affirmative Action Employer. Equal Opportunity Office: 21 Spruce Hall.**

FELLOWSHIP

GRADUATE FELLOWSHIPS

The Academy for Educational Development invites applications for National Security Education Program (NSEP) Graduate International Fellowships. These Fellowships enable U.S. graduate students to add an important international dimension to their education by supporting the study of languages, cultures, and world regions deemed critical to U.S. national security. Excluded is study of Western Europe, Canada, Australia, and New Zealand. Fellowships are awarded in a broad range of disciplines including applied, biomedical, and health sciences, and engineering. Awards support overseas and domestic study for up to 24 months. *Must be a U.S. citizen to apply.* Award recipients incur a requirement to work for a federal government agency involved in national security affairs or in higher education in an area for which the Fellowship was awarded, in that order of precedence. Deadline: January 15, 1999. Contact: **Academy for Educational Development, National Security Education Program, Graduate International Fellowships, 1875 Connecticut Avenue N.W., Washington, DC 20009. Telephone: 202-884-8285 or 800-498-9360; website: www.aed.org/nsep.**

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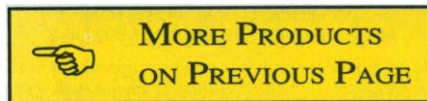
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- Muramatsu T, Nakamura A, Park HM: Efficient means of nonviral gene transfer to living animals. *International Journal of Molecular Medicine* 1:125-135, 1997.
- Chen, L., Perlick, H., Morgan, R.A. Correlation of gene expression and cell death in IX. *Human Gene Therapy* 8:125-135, 1997.

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- Heller R, Jaroszeski MJ, Dang V, Nicolau C, Atkin A, et al: Delivery of genes to tissue in vivo. *Proceedings International Conference on Gene Therapy and 2nd Slovenian-Croatian Meeting on Molecular Oncology Today*. Abstract. 1997.

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- Katkin, J.P., Husser, R.C., Langston, C.F., et al: Efficient delivery of recombinant adenovirus to the lung. *Human Gene Therapy* 8:125-135, 1997.

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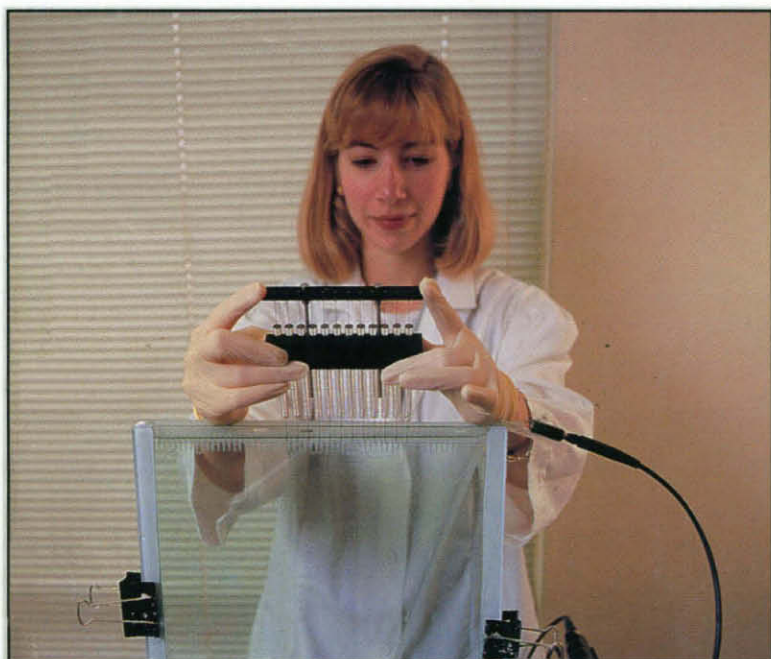
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