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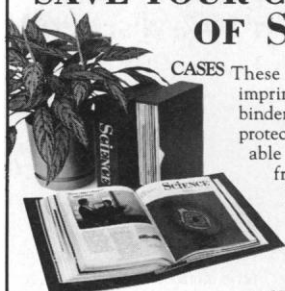
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P16

MAKING THINGS WORK

Career Opportunities for Scientists with Disabilities

The special advertising section in this issue of SCIENCE examines steps being taken by companies and institutions to make their workplace accessible. This section also contains career profiles of scientists with disabilities.

Turn to page 1678.

SCIENCE

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A blue-tinted photograph of a hand holding a pipette, with text overlaid. The background is a solid blue color. The text is white and reads: "Witness a", "breakthrough in", "quantitative PCR." The text is arranged in three lines, with "Witness a" on the top line, "breakthrough in" on the middle line, and "quantitative PCR." on the bottom line. The pipette is a glass pipette with a metal tip, and the hand is holding it from the side. The lighting is soft, and the overall tone is professional and scientific.

Witness a
breakthrough in
quantitative PCR.

Real-time detection brings quantitative PCR up to speed.

If you've been looking for a faster, easier way to get quantitative PCR results, look into the ABI PRISM™ 7700 Sequence Detection System.

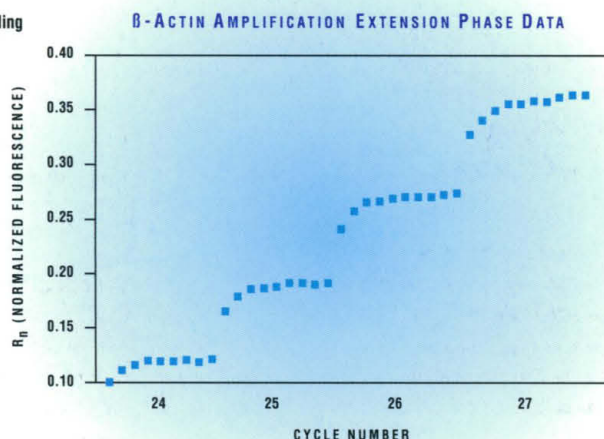
The ABI PRISM 7700 system makes reproducible quantitative PCR possible for the first time using real-time PCR detection. So now, you can actually see the increase in PCR products as PCR proceeds, and quantitate nucleic acid sequences with unprecedented throughput.

Unlike conventional methods, the ABI PRISM 7700 system is fully integrated for sequence detection using a unique closed-tube assay. For maximum convenience and throughput, detection takes place in 96-well sample trays. There is no post-PCR processing. Risk of contamination is minimal. And your results are available within minutes after thermal cycling is complete.



Fiber optic cables direct laser light to each of 96 sample wells and carry emission data back to the detector.

By monitoring PCR product accumulation during the extension phase, the ABI PRISM 7700 system provides the information you need to optimize cycling conditions.



The fully integrated ABI PRISM 7700 system includes a built-in thermal cycler, the TaqMan™ PCR Reagent Kit for fluorogenic 5' nuclease assay, high-speed laser-induced fluorescence detection, and real-time detection software.

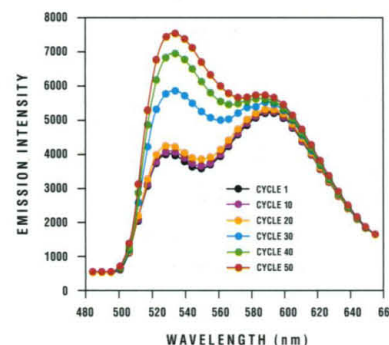


The closed-tube assay makes real-time PCR a reality.

To quantitate target sequences, the ABI PRISM 7700 system detects signal in real time using a fluorogenic 5' assay based on the TaqMan™ PCR Reagent Kit. The entire assay takes place in specially designed reaction tubes during PCR.

After samples and reagents are pipetted into the tubes, the tubes are sealed, placed in the sample tray, and transferred to the ABI PRISM 7700 system for amplification and detection. Sequence-specific signal is generated and detected in solution. The tubes remain sealed throughout the process, thereby controlling contamination and reducing the chance of false positives.

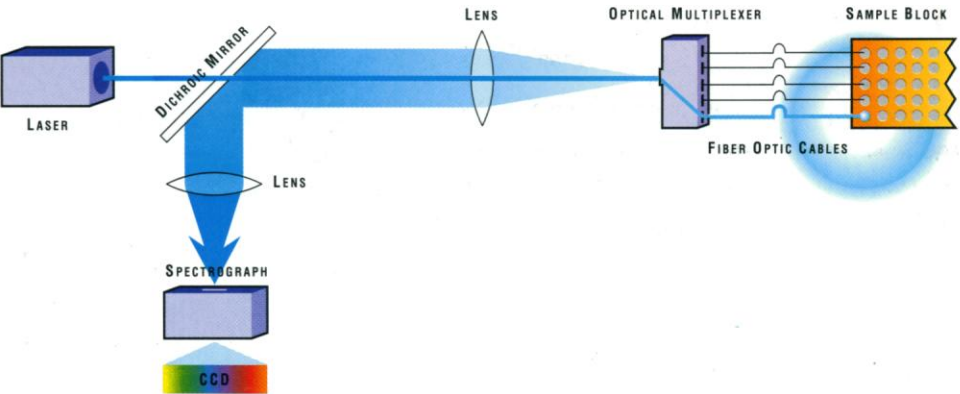
The assay in action: These plots show the increase in reporter dye emission at each PCR cycle.



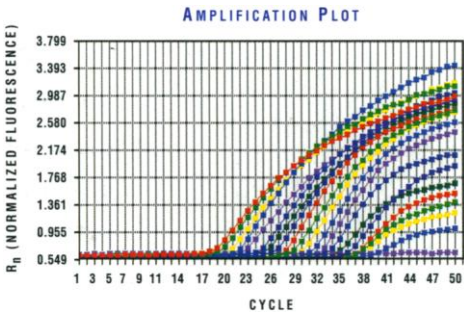
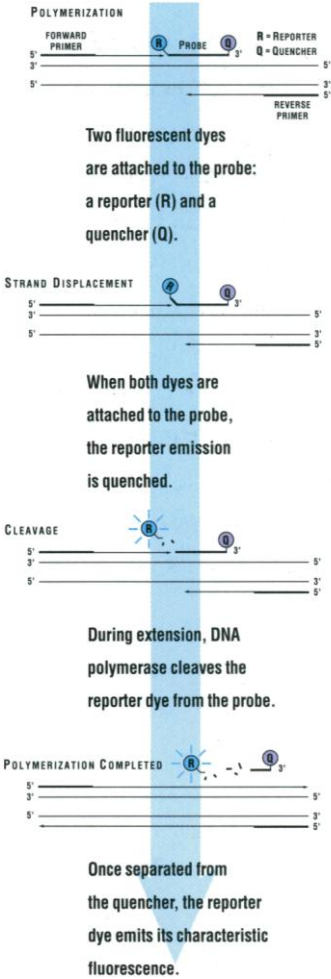


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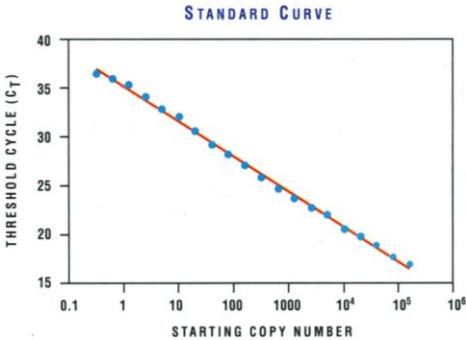
During each PCR cycle, the ABI PRISM 7700 system monitors all 96 wells using high-speed, multi-color fluorescence detection. A laser, directed through fiber optic cables, excites the fluorescent dyes within each well, then collects the emission between 500 nm–660 nm. The emissions are carried back to a CCD camera where they are detected according to their individual wavelengths.



FLUOROGENIC 5' NUCLEASE CHEMISTRY



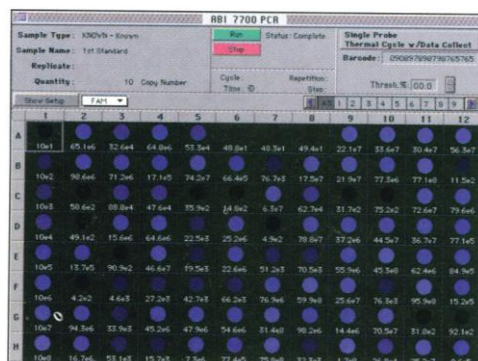
Setting a new standard: Data from serial dilutions of samples with known starting copy number are used to generate a standard curve for the determination of starting copy number in unknown samples.



The ABI PRISM 7700 system calculates the standard curve using the cycle where the amplification plot crosses a defined fluorescence threshold (C_T). This provides at least five orders of magnitude of linear dynamic range.

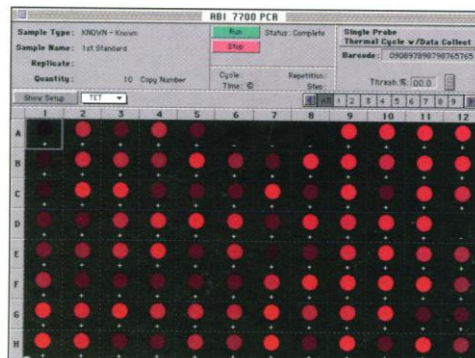
Real-time quantitative PCR for real-world research applications.

For the first time, the ABI PRISM 7700 system makes reproducible quantitative PCR a routine, high-throughput procedure. In doing so, it opens up new research possibilities in applications such as large-scale gene expression studies and pathogen detection.



To set up a run, just enter the information for your samples and standards, then set up your PCR conditions using the built-in thermal cycler editor. The ABI PRISM 7700 systems' set-up screen depicts a 96-well sample tray with all your samples in place.

You can verify the success of each reaction by running an internal positive control in the same reaction tube as the sample, using a second probe labeled with a different reporter dye. Sample positions that show no signal indicates a failed reaction.



After a run, the software calculates the starting copy number for each sample well and displays the results. To ensure maximum reproducibility, the ABI PRISM 7700 system automatically normalizes the emission of the reporter dye with the emission of the built-in passive reference.

Real ease of use.

The ABI PRISM 7700 control and application software make it easy for you to put real-time, quantitative PCR to work in your lab. All system functions, including set up, data analysis, and display are controlled from a single computer. And an intuitive graphical user interface makes the software easy to learn and use.

Real comprehensive support.

To help you take full advantage of the power of real-time quantitative PCR, PE Applied Biosystems offers expert support and service for the ABI PRISM 7700 system through our worldwide network of applications specialists. Technical reports are also made available on a regular basis to keep you up to date on developments.

Get up to speed on real-time PCR.
Call PE Applied Biosystems for this important FREE technical report.

Learn in detail how real-time detection brings quantitative PCR up to speed. Just request your free copy of our informative technical report, *Quantitation of DNA/RNA Using Real-Time PCR Detection*, by Dr. Kenneth J. Livak, Senior Scientist at PE Applied Biosystems. Discover how Quantitative Competitive PCR and associated end-point detection methods compare with the fluorogenic 5' nuclease assay and real-time detection using the ABI PRISM 7700 Sequence Detector. With this report, you'll have all the information you need to assess and justify the value of real-time PCR detection in your research. This report could significantly advance your work. Quantities are limited. So call your PE Applied Biosystems office today for this important free report.

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PE Applied Biosystems PCR reagents are developed and manufactured by Roche Molecular Systems, Inc., Branchburg, New Jersey, U.S.A.



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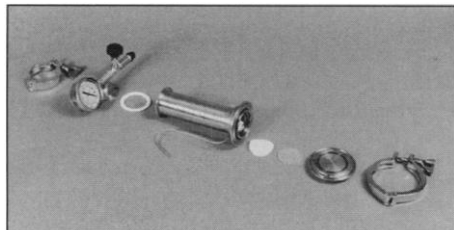
PRODUCTS & MATERIALS

Automated Glycoprotein Analysis System

The Carbohydrate Solution includes the P/ACE 5000 Capillary Electrophoresis system with the 488 laser-induced fluorescence (LIF) detector, software, an eCAP N-Linked Oligosaccharide Profiling carbohydrate chemistry kit, and a literature kit. The profiling kit provides an automated, turnkey approach for the release, labeling, separation, and detection of N-linked oligosaccharides. The kit's fluorescent dye and the LIF detector detect in the low femtomole range. **Beckman Instruments. Circle 138.**

Batch Separation of Biotech Solutions

Osmonics' stirred cell makes use of a SEPA membrane to concentrate small batches of expensive biotech solutions or toxic materials under safe conditions. An inert gas source or shop air pressurizes the 50-mm-diameter SEPA membrane disk to separate materials



by nanofiltration, ultrafiltration, microfiltration, or reverse osmosis. More than 30 SEPA membranes of various polymers and pore sizes are available. The stainless-steel cell features a stir rod coated with Teflon and sanitary couplings. Compatible gasket material and membranes can be matched to the solution to be processed. **Osmonics. Circle 139.**

Biotinylated DNA Probes

The DECAprime Biotin random priming kit is optimized for the preparation of biotinylated probes that do not interfere with hybridiza-

tion. Random decamers are annealed to denatured DNA template and extended by exonuclease-free Klenow fragment in the presence of biotin-14-dCTP. The resulting biotinylated DNA probes can be used for Northern (RNA) and Southern (DNA) blots, plaque and colony kits, in situ hybridization, or chromosome spreads. **Ambion. Circle 140.**

Structure-Drawing Software

ChemWindow DB is structure-drawing software designed for Microsoft OLE 2.0. The program allows users to draw and edit structures from within OLE applications, such as Microsoft Word. Users can draw and edit documents without leaving the container document. Structures can be dragged and dropped between windows of OLE applications. ChemWindow DB can even be used to embed structures inside a chemical database system. **SoftShell. Circle 141.**

Internal Focusing System

InFocus is an internal focusing system for microscopes. It is an easy-to-install module that fits atop the stand of most major brands of microscopes. For applications making use of three-dimensional and confocal microscopy, InFocus optically sections through cell structures with increased image quality. InFocus corrects for spherical aberration and contrast losses, so users will achieve the finest images possible from their microscopes. **Infinity Photo-Optical. Circle 142.**

Monoclonal Antibodies

Breast Tumor Marker monoclonal antibody (mAb) can be used for staining CA-15-3, a cancer antigen (CA) found in breast tumor tissue. The mAb does not react with human alphafetoprotein (AFP), carcinoembryonic antigen (CEA), prostate-specific antigen (PSA), CA-19-9, or CA-12-5. The Ovarian Tumor Marker mAb reacts with CA-125 in

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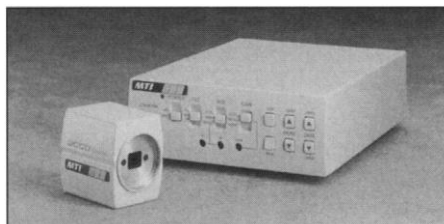
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serous and endometrioid adenocarcinoma, Krukenberg's tumor, and uterine myoma. Normal ovarian epithelial cells are negative, and the antibody does not react with human AFP, CEA, PAP, PSA, CA-15-3 or CA-19-9. The PS1 mAb reacts with the epsilon chain of the CD3 complex, a complex associated with T cell receptors consisting of disulfide-linked glycoprotein chains on T lymphocyte surfaces. The mAb E11 reacts with CR1 (CD35), the receptor for the complement component C3b that is widely distributed on many different cells including erythrocytes, B cells, monocytes, and granulocytes. The mAb MEM55 can be used to stain CD45RB antigen on most T cells, B cells, monocytes, and macrophages. CD45RB is one of three isoforms of the CD45R subfamily. CD45 is a cell surface receptor considered to be involved in signal transduction. The mAb 9E10 reacts with an epitope of *c-myc* protein that may be detected in many different cancers. **BioGenex. Circle 143.**

Color Camera

The DC-330 is a three-chip color camera with a small remote head and a C-mount. It features 10-bit digital processing and resolu-

tion up to 750 TV lines. On-chip integration provides increased sensitivity in low-light conditions. Picture detail is enhanced through adjustable horizontal and vertical edge enhancement. On-screen programming of more than 40 internal camera functions simplifies



adjustment for precise viewing requirements. Combinations of internal camera settings can be saved in three user-defined memories. All internal camera functions can be controlled through an RS-232 interface. **Dage-MTI. Circle 144.**

Gold Labeling Reagents

Gold particles can now be attached covalently to other molecules at specific sites. Two forms of gold are available: Monomaleimido-Nanogold reacts with thiols; and mono-N-hydroxysuccinimide ester-Nanogold couples to amines. Molecules that can be labeled in-

clude antibodies, other proteins, peptides, lipids, carbohydrates, RNA, and DNA. These gold conjugates can be used as probes for electron or light microscopy, cytohistochemistry, diagnostics, blots, or gels. Because NanoGold is small (1.4 nm), these probes' penetration is superior to that of larger colloidal gold probes. **Nanoprobes. Circle 145.**

Enhanced Chemiluminescence Substrate

SuperSignal Ultra Substrate is a chemiluminescent substrate for horseradish peroxidase in protein immunoblotting that detects protein bands down to the femtogram level. It results in a signal 25 times more sensitive than that of any other enhanced chemiluminescent substrate available, according to the manufacturer. SuperSignal Ultra requires antibody dilutions of 1:100,000 and higher—conserving valuable primary antibodies. It also demonstrates excellent signal duration, with 24-hour light emission. The working solution is stable for 24 hours. **Pierce. Circle 146.**

Literature

SenSys: Sensitive, Affordable, Easy-to-Use Digital Camera describes a cooled camera system with sensitivity and resolution that approaches high-priced systems. The design features a scientific grade charge-coupled device (CCD), electronics that produce minimal noise, and compact hardware that keeps the CCD operating in a consistently cool environment. **Photometrics. Circle 147.**

Microprocessor-Based Portable Meters includes a line of meters to measure pH, conductivity, temperature, relative humidity, and more. The 12-page brochure features all the probes, solutions, and accessories necessary to meet almost any application requirement. **Cole-Parmer Instrument. Circle 148.**

Worthington Enzyme Catalog contains information about enzymes, biochemicals, and kits for life-science research. It includes detailed information on many new products, including plasmid DNA purification, mRNA isolation, and random-prime DNA labeling kits. **Worthington Biochemical. Circle 149.**

Shodex Packed Columns for HPLC describes a complete line of high-performance liquid chromatography (HPLC) columns, detectors, degassers, and accessories. The catalog lists more than 300 different columns for separating compounds by such attributes as size, type, and application. **JM Science. Circle 150.**



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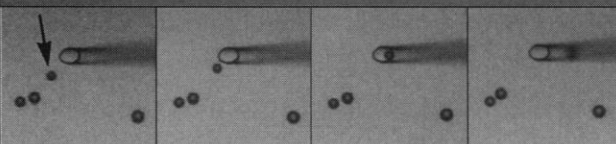
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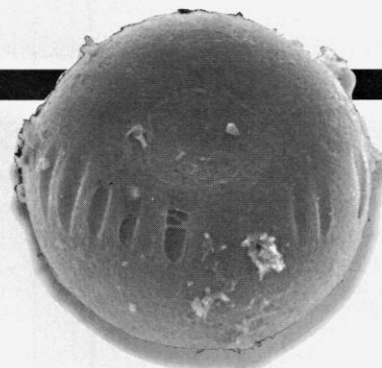


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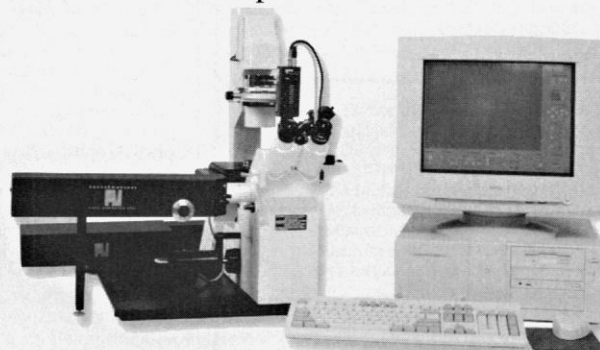
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This advertising supplement begins on page 1680, along with these full page recruitment advertisements in this issue of SCIENCE!

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SCIENCE

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PROFESSOR OF BIOLOGY/ DEPARTMENT CHAIR (Position 21791)

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Established cardiovascular scientists are invited to apply for the Frank E. Mayborn Chair in Heart Research at the Texas A&M University Health Science Center. The holder of the CHAIR will have a nationally recognized, well-funded research program. Candidates in all areas of cardiovascular science will be given serious consideration. Investigators who apply the tools and concepts of molecular and cell biology to understanding cardiovascular behavior are encouraged to apply. In addition to continuing a high-quality individual research effort, the successful candidate will have programmatic responsibility for developing a cardiovascular research unit on the clinical campus and will work with clinical investigators and basic scientists to establish a Health Science Center-wide cardiovascular research and training center. Interested individuals should send a curriculum vitae, the names of three references, and a statement of current research interests to: Harris J. Granger, Ph.D., Chairman, Mayborn Chair Search Committee, Department of Medical Physiology, Texas A&M University Health Science Center, College Station, TX 77843-1114. Texas A&M University is an Affirmative Action/Equal Opportunity Employer committed to diversity.

FACULTY POSITIONS

The Department of Microbiology and Immunology of Temple University School of Medicine invites applications for two **TENURE-TRACK** faculty positions. Rank will be appropriate to training and experience. We are particularly interested in individuals studying (1) molecular immunology or cellular immunology employing contemporary molecular biology approaches; (2) molecular microbiology or microbial pathogenesis using molecular approaches. Successful candidates must have significant research accomplishments, ability to establish and maintain a vigorous research program that will attract peer-reviewed funding, and a commitment to excellence in educating graduate and medical students. Applicants at the Associate Professor or Professor level must demonstrate a considerable record of independent peer-reviewed funding and must have active competitive grants. Start-up funds and newly renovated space are available.

The Department is supported by extensive peer-reviewed funding and has a very strong graduate program providing students with advanced training in molecular microbiology and immunology. Interactions are encouraged with other basic and clinical departments of the School.

Send a curriculum vitae, bibliography, summary of research achievements and research plans, and the names and addresses of four references to: Chris D. Platsoucas, Ph.D., Professor and Chairperson, Department of Microbiology and Immunology, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, PA 19140.

Temple University is committed to Affirmative Action and Equal Employment Opportunity and strongly encourages applications from women and minorities.

CHEMISTRY FACULTY TENURE-TRACK

Massachusetts Institute of Technology Department of Chemistry

The Department of Chemistry invites applications for **TENURE-TRACK** positions in all areas of chemistry for July 1997. While the preferred level of appointment is at the rank of Assistant Professor, applications for appointment at more senior levels are also welcome. Outstanding individuals with a strong commitment to research and teaching are encouraged to apply by arranging to have a curriculum vitae, a brief description of research plans, and three letters of recommendation sent to: Professor Stephen J. Lippard, Department of Chemistry, 18-399, Massachusetts Institute of Technology, Cambridge, MA 02139-4307 by October 1, 1996.

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

Department of Psychology, Princeton University, anticipates making an appointment at the **ASSOCIATE** or **FULL PROFESSOR** level in Cognitive Neuroscience. Applicants should have an active program of research, preferably with expertise in an area involving human brain imaging. Please send a curriculum vitae and three letters of reference to: Search Committee, Department of Psychology, Princeton University, Princeton, NJ 08544-1010 by October 1, 1996. Princeton is an Equal Opportunity/Affirmative Action Employer.

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Pfizer Inc, a research-based international pharmaceutical company, is pleased to announce a new grant program that seeks to fund research in the area of data analysis.

The purpose of this program is to catalyze the application of advanced mathematical and computational science to biological and chemical problems. We encourage applications for the support of ground-breaking, exploratory research into the problems associated with the analysis of large and complex data sets.

A limited number of grants are to be awarded in 1996 for amounts ranging from \$50,000 to \$100,000. Proposals will be evaluated solely by Pfizer Inc and recipients will be selected based on Pfizer's judgment of the proposals' originality, scientific merit, feasibility, and applicability to research problems in drug discovery. Applications must be received by September 1, 1996.

To obtain more information and an application form, please E-mail: dataform@pfizer.com

or write:

Data Analysis Grants Committee
Molecular Sciences Department
Pfizer Central Research
Building 118/ Box 0364
Groton, CT 06340



SETTING NEW STANDARDS: CAREERS FOR SCIENTISTS WITH DISABILITIES

by John Timpane

Standards are everything in science. They are the bedrock on which testing, communications, and comparison take place; by their light, scientists sort out the promising result from the happy accident and the burst of noise. In every sector of the scientific work force, employers and workers alike are proud of upholding and representing the highest possible standards.

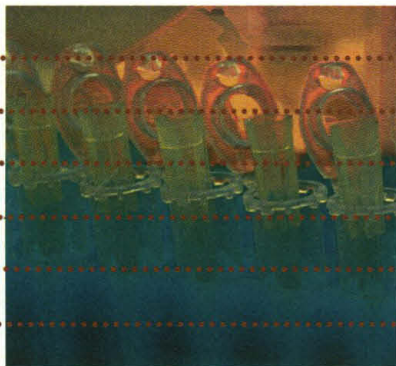
People, however, are not standardized. What of the capable scientist who lacks vision, hearing, or the use of a limb? Can the schools train, and industry hire,

the biologist who is blind, the chemist who is deaf, the brilliant performer who nevertheless needs a different bench, a modified hood, a redesigned work place?

Below, we survey the situation of scientists with disabilities. We look at the numbers, consider the issues, and meet scientists at the New Jersey Institute of Technology (NJIT) and CIBA Pharmaceuticals. Their insights suggest that both private and industrial science welcome talent in whatever form it comes. It takes hard work to become a scientist, and even more hard work to do so with a disability. But people are doing it, finding new ways to do science and to set new standards.

Percentage of graduate students reporting a disability by field: 1989-90

Mathematics.....	6.8%
Life Sciences.....	7.6%
Physical Sciences.....	7.7%
Computer Sciences.....	12.4%
Psychology.....	5.1%
Engineering.....	6.9%



Source: *Women, Minorities, and Persons With Disabilities in Science and Engineering: 1994*

Numbers and Definitions

It is hard to be exact about the numbers of people with disabilities in the work force—largely because of the shifting definition of the word *disability*. Although the 1990 Americans with Disabilities Act (ADA) worked toward establishing standard definitions, there is as yet no consensus. Not all institutions, furthermore, keep records that include information on disabilities. Reporting patterns among respondents are not always reliable, and since the incidence of disability increases with age, it is difficult to use *disability* as a distinctive descriptor for a single group.

U.S. Census data suggest that the relative proportion of people with disabilities in the work force declined slightly between 1980 (11.8 percent) and 1990 (10.4 percent). According to studies conducted by the National Science Foundation (NSF), a parallel decline took place in the science and engineering work force, going from 3.3 percent to 2.7 percent in the same period. Less than 300 people with disabilities receive science and engineering PhDs each year. In the 1994 report *Women, Minorities, and Persons with Disabilities in Science and Engineering*, NSF researchers concluded that “persons with significant sensory-motor disabilities are seriously underrepresented” in the science and engineering population.

Obstacles and Outlooks

Many (perhaps most) scientists with disabilities would rather the rest of us kept quiet and let them do their work. All they want is to do science. Others are hesitant to speak about their experience. But scientists with disabilities clearly face special issues in finding and keeping good science jobs. Between ten and twenty percent of the U.S. population has a disability (variously defined); this number erodes to less than three percent of all scientists and engineers.

Young scientists with disabilities often face discouragement from teachers and peers. Writing in the AAAS publication *Investing in Human Potential: Science and Engineering at the Crossroads*, Marsha Lakes Matyas and Virginia W.

Affymax Research Institute is an innovative venture dedicated to the development of new technologies which will accelerate the process of drug discovery. Our success in the creation and screening of large combinatorial chemical libraries has created excellent opportunities at our Santa Clara and Palo Alto, California sites. We have recently become part of GlaxoWellcome plc, the largest pharmaceutical company in the world.

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Working in a multi-disciplinary environment, responsibilities will include developing new solid phase chemistries & applying these to the generation of random libraries for new lead discovery, as well as employing medicinal chemistry principles to the design and synthesis of focused libraries for lead compound optimization. Ph.D. in organic chemistry with experience in synthetic, medicinal or pharmaceutical fields with strong emphasis on organic synthesis required. Must be familiar with combinatorial chemical principles and general solid phase organic synthesis, and be proficient with all major chromatographic and spectroscopic techniques.

Postdoctoral Fellows - Organic Chemistry

Positions exist for creative and accomplished graduate chemists with a Ph.D. degree in organic synthesis and an interest in combinatorial chemistry. You will develop new solid phase chemistries appropriate for the generation of combinatorial libraries and have the opportunity to gain experience in the use of synthesis automation hardware in a sophisticated interdisciplinary research environment. Appointments are for one year, renewable for an additional year with favorable research progress.

Research Associates - Organic Chemistry

Will participate in research teams using combinatorial chemistry methodologies for the discovery of new pharmaceutical lead compounds. Work will involve development of solid-phase syntheses of heterocyclic and other small organic molecule pharmacophores, BS/MS in organic chemistry with a strong background in modern synthetic methods and at least two+ years research laboratory experience required. Previous experience in medicinal chemistry and solid-phase synthesis desirable. Must be familiar with the latest Mac computer software such as Word, Chemdraw, Excel, etc.

Medical Microbiologist

To establish a new program in antibacterial drug discovery integrating state-of-the-art expertise in combinatorial chemistry and novel high-throughput screening technologies for rapid evaluation of compound libraries. Emphasis will be given to implementation of strategies for the identification of new drug targets in important

bacterial pathogens. Ph.D. in microbiology or related discipline with 5+ years experience in the identification and characterization of antimicrobial agents in the pharmaceutical industry and a broad range of expertise in medical microbiology, microbial pathogenesis and genetics, as well as experience in cloning, gene expression and other molecular methods are required. A strong background in microbial biochemistry and assay development for high throughput screening preferred.

Enzymologist/High Throughput Screening

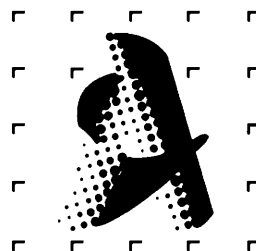
Will participate in the development and application of novel high throughput screens for the rapid evaluation of combinatorial chemical libraries. Ph.D. biochemist or pharmacologist with 3+ years postdoctoral experience in assay development and a thorough knowledge of enzyme kinetics and mechanism required. Preference will be given to candidates with experience in high throughput screening for drug discovery, including assay automation and HTS data management using robotic systems. A background in antimicrobial enzymology, protein purification and a good level of chemical literacy very helpful.

Research Associates - Biological Sciences

Positions require BS/MS with 3+ years research experience developing biochemical and antimicrobial assays and specific experience running both cell-based and *in vitro* enzyme inhibition assays. Previous experience with laboratory automation is a plus.

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Carol Venanzi and William Skawinski of NJIT

Stern note that for people with disabilities, "the doors to a future career in science and engineering can be closed early in adolescence." As we heard from one scientist, "I do know of people who have been discouraged in their careers. I don't know why somebody would do that, but I do know it happens." Because people with disabilities rarely get degrees in the sciences, role models are as yet scarce. Those who persist through the degree process encounter a range of attitudinal and physical obstacles. Few of us like to ask for anything special, least of all when we need it.

And when they enter the job market, some make choices based not on what they want but on what they think they can get. One respondent says, "Many scientists with disabilities seek the path of least resistance. You might have all the ability in the world but, seeing the difficulties, you'll decide to settle for a position that is really beneath your abilities because, either consciously or unconsciously, you're afraid you won't make it, or you'll be too much trouble to others."

Still another set of challenges exists in the work place. Science requires precise handling of tools and equipment, the ability to detect and react to the tiniest changes. Will managers and employers have the patience and pocketbooks to accommodate the scientist who may not hear, see, speak, move, or manipulate in the same way as do other scientists? Will co-workers recognize excellence despite difference? Even if the answers to those questions were universally in the affirmative, the questions themselves would remain.

Consider the issue of promotion. A scientist with a speech disorder says that promotion can be a difficult issue: "Higher management work requires frequent and rapid oral communication, which is not an insuperable barrier, but does represent difficulties at times." Although this

scientist has been promoted to a mid-range managerial position, her career trajectory remains somewhat beneath what one might expect based on her distinguished record of performance. Why hasn't she risen higher? "Partly because of hesitation on my own part," she says, "and partly, I am sure, because the offers were simply not there."

Encouraging scientists with disabilities requires close linkage among parents, teachers, and government and private agencies. Many organizations, such as the Association on Higher Education and Disability (AHEAD) and the Science Association for People with Disabilities, exist to inform and help those with disabilities who seek a science career. Since 1975, the AAAS Project on Science, Technology, and Disability has promoted the entry and advancement of people with disabilities into the sciences, mathematics, and engineering. Some scientific organizations, such as the American Chemical Society, have committees and programs dedicated to scientists with disabilities.

All our interviewees agreed that the major factor determining success is the individual him- or herself. "It really depends on the individual and his or her capabilities," says Jeff Liebman of CIBA. William Skawinski of NJIT thinks that the two keys are a love of science and a willingness to do a great deal of hard work. Below, two scientists with both of these attributes discuss how they crafted satisfying careers.

Feeling and Vision: Skawinski of NJIT

One of the high points in William Skawinski's career was when a colleague at NJIT told him about rapid prototyping, a technique that employs laser stereolithography to create three-dimensional polymer models. Skawinski, a research associate in the department of chemical engineering, chemistry, and environmental science at NJIT, did something that often leads to exciting scientific work: he asked a simple question, which was "Is anybody making models of molecules?"

It turned out no one was. Working with Carol Venanzi and other colleagues, Skawinski designed a new way to produce 3-D molecular models for blind and visually impaired scientists and students. In his design, a computer-controlled laser creates a polymer model based directly

on images in a computer-aided design program.

Skawinski has accomplished all this despite his blindness, which resulted from a progressive condition that left him without sight a few years after earning his BS in chemistry at the Stevens Institute of Technology in 1970. Though he went on to earn his MS from NJIT and his PhD from Rutgers, Skawinski is candid about having to do science differently because of his disability. "Science is heavily info-intensive," he says, "and I had to develop a number of skills and work hard to set up techniques for myself for acquiring and handling information and getting it when I needed it."

As his disability progressed, he benefited from advances in assistive technologies for the visually impaired. "I've used recorded materials for years, along with Braille and molecular model kits. Today, we have talking computers, Braille printers, and Braille displays. I use them every day."

In a field in which sight and spacial understanding are so important, how has Skawinski been able to excel? "Above all, by being better organized," he says. "I keep every kind of information on computer so that it will be accessible to me. I have come very close to having that paperless office everyone's been talking about." Without question, the computer has been a godsend for scientists like Skawinski, allowing them to store and access information in new and better ways. Books on CD are easier to use than are books on tape. And the clever user, like Skawinski, can customize his or her own system. "I love the concept of the personal computer, with the emphasis on personal," he says.

While he has spoken to scientists who have encountered prejudice because of their disabilities, Skawinski himself has encountered only "tremendous people" who he says have given him excellent opportunities. "Scientists are most interested in what you can do, and they'll give you the same opportunity to succeed or fail as they would anyone else. At first, they may wonder exactly how you are going to do it. But I'd just be frank with them: I may ask for help from time to time, but I'll reach the goals by myself. Most of them simply say, 'If you can find a way of doing it, who am I to say you can't?'"

All this technological advancement has allowed Skawinski to be primarily a

R&D Information Management Opportunities



Princeton, NJ

Senior Chemical Information Scientist

Major responsibilities: Providing journal, patent and chemical information in response to client inquiries, which includes on-line literature searches, synthesis, analysis and evaluation of data. Additional responsibilities include training, leading projects, coordinating end-user search programs (SciFinder, STN Express), supporting research project teams, and acting as a liaison with attorneys and other departments.

Requirements: Degree in Organic Chemistry required. Ph.D. with 1-2 years relevant experience, or M.S. with 3-5 years relevant experience, or B.S. with 6-9 years relevant experience. Knowledge of chemical and patent searching, including patent fragmentation coding and STN Express is required.

Position # OPSCI-1817

Senior Biomedical Information Scientist

Major responsibilities: Providing biomedical and industry information support and programs, which include on-line literature searches, synthesis, analysis and evaluation of data, and current awareness information. Additional responsibilities include development and implementation of IM programs, training, leading projects, and acting as a liaison with other departments, including research and clinical development project teams.

Requirements: Degree in Biology or Biochemistry required. Ph.D. with 1-2 years relevant experience, or M.S. with 3-5 years relevant experience, or B.S. with 6-9 years relevant experience. Knowledge of biomedical searching and basic research concepts required.

Position # OPSCI-1925

Chemical Information Analyst

Major responsibilities: Maintaining and supporting proprietary chemical databases. This includes naming of chemical compounds, data registration, quality control of chemical data, end-user support and training, preparation of technical documentation, and participation in cross-departmental project teams.

Requirements: Degree in Organic Chemistry or Biology with a strong organic chemistry background required. M.S. with 1-2 years relevant experience or B.S. with 3-5 years relevant experience. Knowledge of chemical nomenclature, relational databases, chemical registration, and the drug development process required.

Position # OPSCI-1748

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Wyeth-Ayerst Research, a major division of American Home Products Corporation, currently has five opportunities available at two of their pharmaceutical research facilities. These openings are available in the Published Information and Proprietary Information Resources departments of the R&D Information Management (IM) division. The Published Information group provides both biomedical and chemical on-line search services to the entire company, leads end-user search programs and projects, and has a heavy focus on new search technologies and current awareness. The Proprietary Information Resources group is responsible for maintaining proprietary chemical and biological databases, leading Discovery IM projects, and providing user support and training for Discovery personnel. General requirements for all of the positions include exceptional communication skills, knowledge of the drug discovery process, strong desktop computing skills, and prior experience with information management.

Pearl River, NY

Senior Information Analyst

Major responsibilities: Maintaining and supporting proprietary information databases for Discovery Research, including training, and preparation of technical documentation. Heavy focus on data retrieval, analysis and evaluation for end-users, and quality control of the data. Additional responsibilities include acting as a liaison with other departments and project team involvement, and leadership of and involvement in project teams.

Requirements: Degree in Organic Chemistry or Biology required. Ph.D. with 1-2 years relevant experience, or M.S. with 3-5 years relevant experience, or B.S. with 6-9 years relevant experience. Knowledge of relational databases, chemical registration and project methodology required. **Position# OPSCI-2006**

Information Scientist

Major responsibilities: Providing chemical, biomedical and industry related information by performing on-line literature searches, client training, coordinating end-user search programs (OVID, STN Express, SciFinder) and developing, implementing and supporting IM projects, programs and services.

Requirements: MLS strongly preferred, with a degree in Organic Chemistry, Biology, or Biochemistry, with an M.S. and 1-2 years relevant experience or with a B.S. and 3-5 years relevant experience. Experience with STN Express, knowledge of biomedical/drug development terminology, and familiarity with basic research concepts are required. **Position # OPSCI-1828**

Wyeth-Ayerst offers an excellent compensation and benefits package in a highly professional environment. Please send your resume with salary requirements, with Position #, to: Wyeth-Ayerst Research, Human Resources Dept., P.O. Box 7886, Philadelphia, PA 19101-7886, or fax your resume (in fine mode if possible) directly into our centralized Research resume database at (610) 989-4854. e-mail: jobs@RAMAIL1.wyeth.com (ASCII format, no attachments, subject: resume). Principals Only. Equal Opportunity Employer, M/F/D/V.

telecommuter. "I go into the office mostly for meetings and to supervise students and troubleshoot their laboratory problems," he says. The Institute has been "extremely encouraging and very cooperative" in making facilities available and helping Skawinski design his personal paperless office. "Whenever I ask for something I need, they'll get it," he says, "but there hasn't been much."

His innovative molecular models continue his professional interest in creating ways for blind students to do science. While doing his doctoral work at Rutgers in the early 1980s, he was also working at NJIT, developing laboratory accessibility strategies and devices for blind students and scientists. "I was interested in making undergraduate chemistry and physics experiments more accessible to blind students," he says. One of his inventions was a modified spectroscope with an audio information output, so a blind person could sit at a computer keyboard and operate the lab instrumentation. "Those were early days for such devices," he says with a chuckle. "Today, anybody could build these things for themselves."

These days Skawinski is working on computational studies on amiloride. "We're doing some NMR studies to ascertain the structure of this family of drugs," he says, "and we're again using stereolithography, trying to learn about the protein channel this family of drugs acts on at the molecular binding site." He speaks with enthusiasm about new developments in materials science. "Having a better understanding of molecular structures allows us to design materials, just as we design drugs, with specific properties for specific purposes," he says.

For the scientist with disabilities, Skawinski offers some practical advice. "First of all, make sure you have an interest in doing science. Second, be prepared to do a lot of extra work. You're going to have to find ways to get as much information as you can. Develop personal strategies to handle lab work, technicians, and systems. And, of course, do as much as you can yourself."

It's clear that he thinks the first piece of advice is the more important of the two. "You have to like doing the work to like science," he says. "It's not enough to be enamored of the image of the scientist. I've known people who want to be a scientist but are not willing to go through

all the preparation. Eventually, they dropped out. For me, it was always the work that I found most interesting. If you enjoy the work, it's worth it."

Making It on Merit: Jeff Liebman of CIBA

"Most disabled persons who have come far enough to get a science degree understand that no one owes them anything, that they have to make it on their own merits. I've seen a few people lose sight of that axiom with the new ADA legislation—but it remains as true as ever."

Those words come from Jeff Liebman, a senior research fellow in osteoarthritis and rheumatoid arthritis in the biology group at CIBA Pharmaceuticals in Summit, New Jersey. Liebman, who is celebrating his twentieth service anniversary with CIBA this year, has built a career out of scientific excellence, a steady insistence on self-reliance, and an ability to take new directions when necessary. Such attributes, valuable for any scientist, are, as the above quotation demonstrates, indispensable for the scientist with disabilities.

Deaf since birth, Liebman received his PhD in physiological psychology—"what you'd now call neuroscience," he says—from UCLA in 1973. "From quite early in my graduate studies," he says, "I sensed that industry might be more attractive than an academic career." After three postdoctoral years working in behavioral psychopharmacology at the University of California at San Diego, Liebman joined CIBA in 1976.

Twelve years into his career, Liebman had to make a mid-course career change. Though the fact is little discussed, retooling has long been part of the life of the industrial scientist. As science changes more and more rapidly, skills, techniques, technologies, even whole fields are rendered obsolete with increasing speed. In response, an increasing number of scientists are changing directions, returning to school to gain new skills or new degrees.

For his part, Liebman was managing eleven other scientists in the behavioral neuroscience group within the neuroscience subdivision at CIBA, when in 1988 his department was terminated for business reasons. What some might see as misfortune, Liebman saw as an opportunity. "I felt at that time that my research skills and area of expertise were becoming obsolete," he says. "My company

had an opportunity in another department and was very supportive of my acquiring the skills to transfer there." After working at the NIH for a little over a year to acquire the relevant molecular biology expertise, Liebman returned to CIBA.

Now he describes himself as "primarily a molecular biologist with some cell biology work sprinkled in." He has been spending the last two years expressing recombinant proteins, primarily isoforms of an enzyme believed to be involved in inflammation. Like most molecular biologists today, he speaks with excitement about genomics, molecular modeling, intracellular signalling, and combinatorial screening. "No recent graduate can enter this field without being familiar with at least one of these," he says.

Liebman spends from half to two thirds of his time in the laboratory, dedicating the remainder to literature searches, computer work, and interaction with colleagues. He is happy to report that he needs "no major accommodations at all" in his current environment: "I sought a work situation which would minimize accommodation while allowing me to pursue my scientific interests and use my abilities."

Do scientists with disabilities have to work harder to gain recognition? "Everyone here is a hard worker," Liebman says, "but as for the perception, that really varies." There still may be some scientists who harbor unconscious prejudices and expect unrealistic compensatory qualities. But Liebman quickly adds, "I think open-minded people who are able to see through to the real person behind the disability are less likely to require superhuman compensation. The vast majority of people I have encountered in my career have been in this category, I am happy to say: fair-minded and able to see me as a real person."

For scientists entering the job market, Liebman has the following recommendation: "Do not get into a situation in which you have to ask for special favors with any employer. Minimize your accommodations; seek the type of work where those will be as minimal as possible. That, of course, is in addition to having the other qualities it takes to survive in research today: a solid and broad foundation of scientific knowledge, adaptability, flexibility, good communications skills, and an outstanding attitude." His twenty years at CIBA suggest that Liebman has all these qualities in large supply.

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Qualifications: Requires a PhD in cell biology with 8-10 years postdoctoral and industrial experience in mammalian cell culture. A strong background in molecular biology or biochemistry is essential. Good communication and interpersonal skills.

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GOVERNORS FELLOWSHIP PROGRAM

THE SCRIPPS RESEARCH INSTITUTE (TSRI) invites nominations for a newly established Governors Fellowship Program at the Institute in La Jolla, California. Developed under the auspices of TSRI's Board of Scientific Governors, the program is designed to offer a five-year fellowship in the life sciences or bioorganic chemistry to an outstanding candidate who shall be nominated by an established member of the scientific community. It is anticipated that one such appointment will be made in 1997.

The successful candidate will hold dual appointments at The Scripps Research Institute as well as Scripps' newly established Skaggs Institute for Chemical Biology. The fellowship is designed to be independent in nature; the awardee will receive designated laboratory space and facilities, and funding to include a stipend, research support, technician support and operational expenses.

Nominations are now invited from members of the scientific community for candidates of exceptional ability. Nominations should include a letter of qualifications, curriculum vitae, as well as a formal research proposal (prepared by the candidate) not to exceed two pages. The Governors are looking for young scientists who have significant promise in their chosen fields of inquiry.

Five finalist candidates will be invited to present their scientific proposals to the Board of Scientific Governors at their annual meeting at the Institute in La Jolla on January 8-9, 1997. Nominations must be submitted by October 15, 1996.



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PhD qualified, with an interest in gene discovery, you should have a strong background in molecular/cellular biology, and experience in differential gene analysis will add weight to your application. (Ref P818).

METABOLISM

The key aspect of this role will be to grow a team which takes an integrated biochemical approach to the study of metabolism.

Your PhD in Biochemistry, Physiology or Molecular Biology will be complemented by at least 2 years' experience in metabolism and an interest in diabetes, obesity, or intermediary metabolism. (Ref P819).

CANCER & CANCER IMMUNOLOGY

We seek a PhD scientist with an established interest and expertise in cancer research and a strong desire to make a major contribution to the discovery of new cancer treatments. The desire to apply modern cell, biochemical and pharmacological skills to the process of drug discovery is essential. (Ref P820).

We also seek a PhD immunologist with experience in cell and molecular biology and a keen interest in applying modern immunological techniques to the discovery of immunomodulators to be used as new cancer treatments. You will have the responsibility of running your own project and support staff and be expected to contribute to our expanding cancer immunotherapy strategy. (Ref P821).

For all these positions, we place particular emphasis on innovation, flexibility and analytical thinking.

Salaries are negotiable according to qualifications and experience, and are geared to attracting high calibre individuals; we operate a progressive performance award system. The comprehensive range of benefits includes performance bonus, generous holidays, non-contributory family medical insurance, 12 months' notice and relocation assistance, if appropriate, to this semi-rural location close to the major commercial centres of the North and well situated for first class cultural and leisure activities.

These positions offer excellent opportunities to develop a career within a truly international business operating at the frontiers of human and technical capability.

For more information, please send full CV to Bill Cogle, Director - Consultancy Services, Austin Knight UK Limited, 98 King Street, Manchester M2 4WD, United Kingdom. Please ensure that you quote the relevant Reference Number in your covering letter.

**Austin
Knight**

ZENECA Pharmaceuticals



The Division of Cardiovascular Diseases of the Mayo Clinic and Foundation invites applications for an established investigator position at the rank of Associate or full Professor. Applicants should have an M.D. or Ph.D. degree and an established record of accomplishment in basic cardiovascular research such as in molecular or cellular biology which focuses upon endothelial, vascular smooth muscle or cardiac myocyte biology. Excellent institutional resources and long-term support are available. Written applications including CV, three letters of recommendation and a description of research interests should be sent to: **John C. Burnett, Jr., M.D., Cardiovascular Chair for Research, Director, NIH Cardiovascular Research Training Program, Mayo Clinic, 200 First Street, SW, Rochester, MN 55905.** Applications will be considered until September 1, 1996. *Mayo Foundation is an affirmative action and equal opportunity educator and employer.*

Staff Positions

GENETICS DEPARTMENT

The Hospital for Sick Children is a health care, teaching and research centre dedicated exclusively to children; affiliated with the University of Toronto. The Genetics Department is seeking individuals with an M.D., Ph.D., or equivalent degree to conduct independent research at the Scientist or Senior Scientist level (Assistant to Full Professor ranks). Applications are invited from individuals who have demonstrated achievements in genomic approaches to disease research, analysis of complex traits, or study of mammalian gene regulation and development. Clinical geneticists with strong basic research programs are encouraged to apply. Applicants should be eligible for an academic appointment to the University.

Applicants should submit a curriculum vitae, reprints of three to five recent publications, a statement of research and future directions, along with the names, addresses, telephone and FAX numbers of three referees, by July 29, 1996, to: **Dr. Lap-Chee Tsui, The Hospital for Sick Children, 555 University Avenue, Toronto, Ontario M5G 1X8. Fax: (416)813-4931.** In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.



THE HOSPITAL
FOR SICK CHILDREN



University of Toronto.

Research Scientist

Rhône-Poulenc Rorer Research and Development, a world leader in pharmaceutical research, has an opportunity available in the Cardiovascular Biology Department of our Collegeville, Pennsylvania research site.

Qualified candidate will use molecular, cell culture/lipid and protein biochemistry to design and conduct experiments to identify and determine feasibility of proposed atherosclerosis drug targets, interact proactively with other in-house molecular groups to achieve desired goals, and identify/develop proposals and new technologies for research programs.

Requirements include a Ph.D. in Molecular Biology/Biochemistry with 2 years postdoctoral study and 0-5 years industrial/academic experience in atherosclerosis research including tissue culture experience in generating and maintaining vascular cell cultures, lipid biochemistry training and expertise with current molecular and cell biology techniques. Strong organizational skills and excellent communication skills are required.

RPR offers a competitive compensation and benefits package including 401k plan and tuition reimbursement. Qualified candidates should submit their resume to: **Rhône Poulenc Rorer Research & Development, Human Resources, Mailstop H37, Position 616/618, P.O. Box 5036, Collegeville, PA 19426-0800.** Equal Opportunity Employer, M/F/D/V.



RHÔNE-POULENC RORER

BE PART OF THE NEW VA DIRECTOR

Health Services Research and Development Service

The Department of Veterans Affairs (VA) invites applications for the position of Director, Health Services Research and Development (HSR&D) Service. The major challenge facing the VA in the coming decade is providing appropriate, high-quality health care to the nation's veterans at a reasonable cost. The HSR&D Service mission is to participate in the search for the most cost-effective approaches to delivering quality health care. To achieve this mission, HSR&D supports health services research studies that examine the effects of organization, financing, and management of health care in terms of quality, access, and health outcomes. The program focuses on advancing and disseminating the state of knowledge regarding health services to VA and the nation.

The incumbent is responsible for policy development in addition to the management and scientific aspects of the HSR&D programs. This includes managing an appropriated budget of approximately \$35 million. HSR&D programs include investigator initiated and service directed research, in addition to operational research occurring within the new Veterans Integrated Service Networks. The individual selected will play a critical role in the organizational restructuring of this program.

Applicants must be U.S. citizens and must possess an active and current license to practice in their respective discipline(s). Candidates are expected to have a strong scientific and managerial background, and to hold an M.D., D.D.S., or earned Ph.D. Salary is \$129,344—\$167,292 for physicians, \$99,844—\$124,792 for dentists, and \$81,278—\$100,939 for allied health professionals/non-clinician managers.

Applicants should forward a curriculum vitae to: **Department of Veterans Affairs, Management and Administrative Support Office (163B), 810 Vermont Ave., NW, Washington, DC 20420.** Curriculum vitae must be received no later than July 31, 1996. *The Department of Veterans Affairs is an Equal Opportunity Employer.*

Assistant Administrator

Office of Oceanic and Atmospheric Research
(A Senior Executive Service Position in the Federal Government)

Department of Commerce
National Oceanic and Atmospheric Administration
(NOAA)

Assistant Administrator,
Office of Oceanic and Atmospheric Research
Silver Spring, Maryland
\$100,526 - \$122,688 annually

The candidate selected for this highly-visible prominent position will have responsibility for the direction and administration of the Office of Oceanic and Atmospheric Research (OAR), including various national research programs.

Mandatory Professional/Technical Qualification Requirements:

- Broad background in physical science and/or engineering with experience in one or more of the following: atmospheric, oceanic and/or environmental science.
- Broad experience with basic and applied atmospheric and/or oceanographic research and related applications and policy issues.
- Broad knowledge of the technological applications and policy issues that motivate oceanic and/or atmospheric research.
- Substantial experience in research administration and direction in area(s) relevant to OAR's mission.

Please contact (301) 713-0534 / (301) 713-0973 (TDD) for an application package, including mailing instructions. Refer to announcement number NOAA#96-10. This vacancy closes on July 12, 1996



NOAA Values
a Diverse Workforce
and is an
Equal Opportunity
Employer



POSTDOCTORAL ASSOCIATE POSITIONS **THE UNIVERSITY OF IOWA** **COLLEGE OF MEDICINE**

Please contact the following departments for postdoctoral positions at the College of Medicine. Postdoctoral positions are limited to a maximum of three years. A Ph.D. or equivalent is required. Desirable qualifications are based on Project Investigator's interest for research. Send curriculum vitae and the names/telephone numbers of three references to the individual listed below. Please specify area of interest in letter of application in accordance with the categories listed under each department below. *Women and minorities are strongly encouraged to apply.* **The University of Iowa, College of Medicine, Iowa City, Iowa 52242, is an Equal Opportunity/Affirmative Action Employer.**

Anatomy—Research areas include fetal alcohol syndrome, cell and molecular biology, cancer, development, muscle including cardiovascular, and neuroscience. **George McHenry, 1-577 Bowen Science Building.**

Biochemistry—Research areas include biochemistry, biophysics, cell biology, and molecular biology. **Dr. Alan G. Goodridge, 4-403 Bowen Science Building.**

Internal Medicine—Research areas include allergy-immunology, cardiology diseases, clinical pharmacology, endocrinology, gastroenterology-hepatology, general medicine, hematology-oncology, infectious diseases, nephrology, pulmonary diseases, and rheumatology. **Michele Pugh, Human Resources Administrator, E400 GH.**

Microbiology—Research areas include immunology, virology, pathogenic bacteriology, microbial genetics, microbial physiology, biotechnology, and medical mycology. **Ms. B. K. Spence, 3-403C Bowen Science Building.**

Neurology—The Department of Neurology welcomes applications for Postdoctoral Associate positions, which may be recruited in the following subspecialty areas: neuropsychology, epilepsy, cerebrovascular disease, stroke, clinical electrophysiology, neuromuscular disease, neurochemistry, and the Laboratory of Neurobiology and Circulatory Control. **Antonio R. Damasio, M.D., Ph.D., Professor and Head, Department of Neurology.**

Obstetrics/Gynecology/Pharmacology—Postdoctoral Associate position is available to study the molecular genetics of oncogene/tumor suppressor gene expression in ovarian cancer with a goal of establishing novel gene therapy strategies. Molecular biology experience required. **Richard E. Buller, M.D., Ph.D., Associate Professor, Director, Division of Gynecologic Oncology, Department of Obstetrics and Gynecology and Pharmacology. Phone: (319) 356-2015.**

Pathology—Postdoctoral research training in molecular and cellular pathology, translational research, and outcomes research. **Richard G. Lynch, M.D., Professor and Head, Department of Pathology, 144 Medical Laboratories.**

Pediatrics—Possible openings in pediatric specialties, i.e., genetics, gastroenterology, allergy/pulmonary. **Frank H. Morriss, M.D., Professor and Head.**

Pharmacology—Openings available in all areas of pharmacology, including molecular and cellular mechanisms of drug action and metabolism, signal transduction, and neuropharmacology. **Dr. Gerald F. Gebhart, Professor and Head, Bowen Science Building.**

POSITIONS OPEN

TWO FACULTY POSITIONS

The Department of Biochemistry and Molecular Biology is seeking applicants to fill two **TENURE-TRACK** positions. For the first position, candidates should have demonstrated ability to develop a research program utilizing molecular approaches to basic biomedical problems. For the second position, candidates should be able to develop a research program in the application of X-ray diffraction analysis to problems in the field of structural biology. Candidates should have a Ph.D. or equivalent in the area of biochemistry, molecular biology, or a related discipline with a minimum of two years of postdoctoral experience. In both positions, the candidates will be expected to participate in teaching of medical students. Senior level applicants must have demonstrated ability to attract significant extramural funding. Interested individuals should send a curriculum vitae, outline of research interests, and the names of three references to: **Chairman, Search Committee, Department of Biochemistry and Molecular Biology, Wayne State University, School of Medicine, 540 East Canfield Avenue, Detroit, MI 48201.** *Wayne State University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply. All buildings, structures, and vehicles at Wayne State University are smoke-free. Wayne State University—People working together to provide quality service.*

ANIMAL POPULATION ECOLOGIST

University of Connecticut

The Department of Ecology and Evolutionary Biology anticipates a **TENURE-TRACK** position, probably at the Assistant Professor level, for a terrestrial or freshwater animal population ecologist. Experimental approach preferred. Ph.D. required; postdoctoral experience desirable. Send letter of application, statements of teaching and research interests, curriculum vitae, reprints, and three letters of recommendation to: **Dr. R. K. Colwell, Department of Ecology and Evolutionary Biology, U-42, University of Connecticut, Storrs, CT 06269-3042.** (Search Number 96A160) Starting date is August 23, 1997. Review begins October 15, 1996. *We encourage applications from underrepresented groups including minorities, women and people with disabilities.*

MASS SPECTROMETRY FACULTY POSITION

The Laboratory for Macromolecular Analysis at the Albert Einstein College of Medicine seeks a **FACULTY** member at any rank with experience in solving biochemical and/or protein structural problems by mass spectrometry (MS), and an interest in the development of biomedical mass spectrometry. The MS laboratory is equipped with ESI and MALDI-TOF mass spectrometers, and is adjacent to laboratories using peptide synthesis, protein sequencing, X-ray crystallography, NMR, and other physical approaches to protein structure in a challenging, collaborative environment. A tenure-track academic appointment is available for qualified candidates. Applicants should send a curriculum vitae, letters from three or more references, and a summary of research interests and future research plans to: **Ms. Joan Savastano, Administrator, Department of Biochemistry, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461.** *Equal Opportunity Employer.*

MOLECULAR BIOLOGIST

A tenure-track **ASSISTANT/ASSOCIATE PROFESSORSHIP** is available for a molecular biologist whose research interests in nerve and/or muscle cells complement those of the neurobiology or cardiopulmonary faculty in the Department. The successful candidate must have a Ph.D. or equivalent degree, and is expected to establish an extramurally funded research program as well as participate in teaching general physiology, developmental biology, or related courses to graduate and undergraduate students. The deadline for applications is July 15, 1996 with a starting date between December 1, 1996 and August 1, 1997. An application letter, description of current and long-term research interests, description of teaching experience and interests, curriculum vitae, and four letters of reference should be sent to: **Dr. Douglas N. Ishii, Search Committee, Department of Physiology, Colorado State University, Fort Collins, CO 80523.** *Colorado State University is an Equal Opportunity/Affirmative Action Employer. Women and ethnic minorities are strongly urged to apply.*

POSITIONS OPEN

FACULTY POSITION in Microbiology. The Department of Microbiology at North Carolina State University (NCSU) welcomes applications for a nine-month, tenure-track faculty position at the Assistant Professor level. The successful candidate is expected to develop an independent research program in microbial biotechnology funded by extramural support, participate in the department's teaching programs, and serve as an advisor to undergraduate/graduate students. Preference will be given to a microbiologist with interests that complement existing research programs in the department. We are particularly interested in host-microbe interactions, pathogenesis, or environmental/industrial microbiology. Applicants must have a Ph.D. with at least two years of relevant postdoctoral experience. To apply, send curriculum vitae; reprints; statements of research and teaching interests; and names, addresses, telephone, fax numbers and Email addresses of three persons who may be contacted as references to: **Dr. G. Luginbuhl, Chair, Faculty Search Committee, Department of Microbiology, Box 7615, North Carolina State University, Raleigh, NC 27695-7615.** Closing date for receipt of all materials is September 1, 1996, or until a suitable candidate is found. *North Carolina State University is an Equal Opportunity Employer and operates under Affirmative Action Policy. The University strongly encourages all qualified applicants.*

TENURE-TRACK FACULTY POSITION Cellular Biology and Anatomy

This is a full-time tenure-track faculty position available 1 July 1996. The appointment will be at the **ASSISTANT or ASSOCIATE PROFESSOR** level depending on qualifications. Applicants should have a Ph.D. or M.D. and postdoctoral experience. We are seeking an outstanding individual with funded research in cell biology or immunobiology to complement a departmental emphasis in alcohol or drug abuse. The successful candidate will be expected to maintain externally funded research and to participate in graduate teaching. An attractive package including research facilities and start-up funds is available. Send curriculum vitae and a brief description of current and future research directions to: **Dr. Leonard L. Seelig, Department of Cellular Biology and Anatomy, LSU Medical Center in Shreveport, P.O. Box 33932, Shreveport, LA 71130.** *LSU Medical Center is an Affirmative Action Employer.*

The Division of Cardiology invites applications for a tenure-track faculty position at the **INSTRUCTOR or ASSISTANT PROFESSOR** level. The general focus of this position will be to work on myocardial ischemia within the context of a multidisciplinary team, headed by **Dr. Roberto Bolli**, that includes molecular biologists, physiologists, and biochemists, and uses a variety of models (isolated cells, isolated hearts, anesthetized and conscious animals). The successful candidate will have demonstrated expertise in integrated cardiac physiology (whole animal physiology). The focus of the research program will be on myocardial ischemic preconditioning, stunning, and hibernation. Applicants must hold an M.D. or Ph.D., have a minimum of three years of postdoctoral training, and be capable of establishing a strong independent research program. Please send curriculum vitae, statement of research interest, and names of three references to: **Richard N. Redinger, M.D., Professor and Chair, Department of Medicine, ACB Third Floor, University of Louisville, Louisville, KY 40292.** Please refer to PCN 09275. *Equal Employment Opportunity/Affirmative Action.*

ASSOCIATE LABORATORY DIRECTOR

Fairfax Identity Laboratories, a division of the Genetics and IVE Institute, is seeking applicants for the position of **ASSOCIATE LABORATORY DIRECTOR.** Qualifications include a doctoral degree in genetics, molecular biology, or a related field with interest or experience in paternity testing and forensic applications. The Institute provides a stimulating environment in which leadership, innovation, and research are encouraged. We offer a comprehensive benefits package and a fine location in the Washington, D.C. area. Salary is commensurate with experience. For confidential consideration please forward your curriculum vitae to:

Dr. Daniel B. Demers
Fairfax Identity Laboratories
3025 Hamaker Ct., Suite 203
Fairfax, VA 22031
FAX: 703-698-3933

Equal Opportunity Employer/Minority/Female/Disabled/Veteran.

POSITIONS OPEN

CLINICIAN SCIENTIST Human Genetics Program

Geisinger Clinic, the Henry Hood Research Program, is seeking a recently trained **PHYSICIAN** to practice human genetics in the Pediatrics and Obstetrics/Gynecology divisions and to do laboratory research in molecular genetics. The primary appointment will be in the Clinical Research Program with up to 25% time devoted to clinical activities. This position is funded by an endowment. Research funds include budgeted monies for supplies and technical support. Additional support can be obtained through grants. The Basic Research Program has well-established research in signal transduction, cell cycle regulation, gene transcription, extracellular matrix proteins, and function of oncogenes. Research may be conducted independently or collaboratively with members of the Basic Research Program. Successful candidates should be Board-certified/Board-eligible in the field of their clinical training. The Geisinger Medical Center is a 548-bed tertiary care and academic institution providing care for 2.3 million in eastern and central Pennsylvania. The Medical Center is located in Danville, Pennsylvania. You can enjoy the advantages of living in a small town with low crime, good schools, and reasonable housing costs and still do research and practice medicine in a large urban style medical center. Please send your curriculum vitae along with all inquiries to: **Howard E. Morgan, M.D., Weis Center for Research, Geisinger Clinic, 100 North Academy Avenue, Danville, PA 17822-2601.** FAX: 717-271-6701. *Equal Opportunity Employer. Minority/Female/Disabled/Veteran.*

BIOMEDICAL ENGINEER—Conduct clinical biomedical research; apply computing and biomedical engineering skills to enhance patient care. Manage anesthesia instrumentation, diagnostic equipment, clinical and administrative information systems. Use Matlab, Labview/CVI, C, Pspice, and SAS for statistical and engineering analysis of biological systems. Conduct research in system identification and biological control systems using Transcranial Doppler, EEG, Cerebral Oximetry. Administer department's computer networks and systems. Develop data-communication HW/SW for the acquisition and archival of clinical data and other SW for specific department use. Provide technical expertise for the purchase of equipment and software for biomedical engineering research; obtain investigational review board approvals for new research projects. Requires Master's degree in biomedical engineering plus one year of experience in duties described or one year of experience as graduate research assistant in biomedical engineering. Course work or experience must include modern control systems and theory; adaptive and optimal controls; system identification; computer and neural networks. Will accept Bachelor's degree in biomedical engineering and three years of stated experience in lieu of Master's degree. Transcripts of college work and experiential references required. Salary: \$34,923 per calendar year, effective October 1, 1996. Work 8:00 a.m. to 5:00 p.m., 40 hours per week. *Applicants must be authorized to work in the United States.* Résumés to: **Y. Wright, Alabama State Employment Service, P.O. Box 12046, Birmingham, AL 35202-2046.** Refer to Job Order Number AL 5059251. *Equal Employment Opportunity.*

ASSISTANT/ASSOCIATE PROFESSOR NEUROBIOLOGY/SIGNAL TRANSDUCTION University of Florida College of Medicine

The Department of Pharmacology and Therapeutics in conjunction with the University of Florida Brain Institute and its program in Signal Transduction and Drug Discovery invites applications for a **TENURE-TRACK FACULTY** position for individuals having a Ph.D. and/or M.D. degree. The position is in part supported by the Lucille P. Markey Charitable Trust. The successful candidate will be expected to develop an independent and interactive research program and contribute to the teaching of professional and graduate students. Applicants with demonstrated productivity using molecular and cellular approaches to study CNS signal transduction are particularly encouraged to apply, although other related areas will also be considered. The position offers a competitive salary, excellent research facilities and start-up package. Applicants should send their curriculum vitae, a brief description of research interests, and three letters of recommendation to: **Chair, Search Committee for the Markey Faculty Scholars Program, Department of Pharmacology, Box 100267, University of Florida, Gainesville, FL 32610-0267.** Application deadline is July 30, 1996 with a start date on or after September 1, 1996. *The University of Florida is an Equal Opportunity Employer, and minorities and women are especially encouraged to apply.*

GlaxoWellcome

GlaxoWellcome is the world largest research based pharmaceutical company with research centres present in eight different countries.

An internationally recognized scientific tradition together with a proven track record of success in the discovery of novel and innovative drugs has been established at Glaxo Wellcome S.p.A. Medicines Research Centre in Verona.

The research centre employs over 400 scientists working on antibacterial and CNS therapeutic areas. It offers a stimulating human and scientific environment with scientists coming from many foreign countries. Novel technologies in chemistry and in biology are creating significant changes and exciting challenges in drug discovery process. The Department of Medicinal Chemistry consists of about 50 scientists, who interact closely with the biological departments. In order to exploit all the opportunities offered by the novel technologies the Department of Medicinal Chemistry is seeking motivated scientists for the following positions:

HEAD OF EXPLORATORY CHEMISTRY (Ref. n° 6/96)

The successful applicant will manage a new dynamic research group which will operate in the early phase of the drug discovery process. The Exploratory Chemistry Group will have a strong integration with the Lead Generation Unit and its main objective

will be to successfully generate high quality lead compounds from the hits emerging from high throughput screens. Applicants should have a documented experience in Medicinal Chemistry and in Combinatorial Chemistry, together with a solid background in biology and analytical sciences. Experience in antibacterial and/or CNS area will be considered desirable.

RESEARCH SCIENTIST (Ref. n° 7/96)

The successful applicants, who will be involved either in the lead identification or in the lead optimization process, will have a solid background in organic chemistry and at least a 5 years post-doctoral experience either in pharmaceutical industry or within academic institutions.

The company is based in Verona (Italy) and offers a challenging and creative working environment with a remuneration package in relation to the experience of the candidates.

Please send your CV and list of publications to:

Glaxo Wellcome S.p.A. - Servizio Selezione Via Fleming 2
37100 Verona, Italy

Please quote the appropriate reference.

Director

Christie CRC Research Centre The Paterson Institute for Cancer Research

The Paterson Council is seeking to recruit a successor to Professor DG Harnden PhD FRCPATH FRSE from July 1997. The Paterson Institute for Cancer Research is an independent multi-disciplinary Cancer Research Institute within the Christie Hospital NHS Trust. The Institute currently has a research staff of 180, a total staff of over 200 and total annual budget of £6.8m of which £4.5m comes from the Cancer Research Campaign. The Institute benefits from close research links with the clinical staff of the Christie Hospital and has substantial financial support from the Hospital's Endowment Funds. It is also part of the Department of Oncology of the University of Manchester and runs a vigorous postgraduate programme. An appropriate University Title will be offered to the new Director.

The Institute's Council is looking to appoint an individual with an outstanding record of achievement in research and proven experience of directing and managing a substantial research activity. The Director will be expected to develop and implement a scientific strategy for the Institute which both builds on its strengths and enhances its scientific standing as well as optimising its relationship with the Christie Hospital.

The salary will reflect the importance that the Paterson Council attaches to this post and the level of responsibility.

Prospective applicants may contact Dr T A Hince, Director, Scientific Department, Cancer Research Campaign on 0171 224 1333 for an informal discussion and further particulars.

Applications should comprise a summary of the applicant's views on the likely future scientific and strategic directions of the Institute, together with a curriculum vitae and the names and contact details of three referees. These should be sent to Prof. Derek Burke CBE, Chairman of the Paterson Council c/o Cancer Research Campaign, 10 Cambridge Terrace, London NW1 4JL by 23rd August 1996.

INFLAMMATION PHARMACOLOGY

Scientist

SmithKline Beecham Pharmaceuticals, a world leader in pharmaceutical research, has an opportunity for a Scientist to join the Department of Inflammation Pharmacology.

The selected candidate will participate in the drug discovery process for immunologically driven inflammatory diseases and explore new molecular targets for immunological diseases. You will also be required to help establish new *in vitro* and *in vivo* model systems/assays to facilitate research efforts, in the department, and to participate in the writing of manuscripts.

Qualifications include a BS (or equivalent) in Immunology, Molecular Biology or Cell Biology, and 2+ years of post-doctoral experience in immunology, immunopharmacology or related field. Candidates must also demonstrate expertise with *in vitro* techniques (ELISA, Northern, Southern, Western analyses, cell culture). Experience with *in vivo* immunological models is recommended.

Located in our technologically advanced research facility in suburban Philadelphia, SmithKline Beecham offers an excellent compensation/benefits/relocation package. Interested candidates should send CV and salary requirements to: SmithKline Beecham Pharmaceuticals, Job Code H5-0498, P.O. Box 2645, Bala Cynwyd, PA 19004. We are an Equal Opportunity Employer, M/F/D/V.



SmithKline Beecham
Pharmaceuticals

Challenging the natural limits.



Dedicated to Science. Focused on Discovery.

At Parke-Davis, inspired science and a strategy of innovation has made us an international leader in the pharmaceutical industry. Our team members are encouraged to pursue discovery together-- and explore all the possibilities of scientific problem solving.

SENIOR SCIENTIST - INFECTIOUS DISEASES

As our strategy for pharmaceutical discovery leads to further breakthroughs, we're looking for a Senior Scientist with established expertise in gram-positive bacterial systems. The successful candidate will be expected to establish a vigorous research program focused on identifying new targets for antibacterial therapy in medically-important organisms such as Staphylococci and Streptococci.

Applicants should be proficient in skills necessary to exploit and apply information from genomic sequencing efforts. In addition, an associated ability to establish and evaluate virulence models for these organisms is a necessary component of the position. Strong interpersonal skills, including mentoring and collaborating, are required. Qualified individuals must have a Ph.D. as well as at least 3 years of postdoctoral experience in a relevant field and a strong record of publication. More established investigators are also encouraged to apply.

Members of our world-class pharmaceutical team enjoy world-class salaries, benefits, and career growth potential. For consideration, please send, fax or e-mail a resume to: **Parke-Davis, Human Resources Department, Job Code: CJM96069, 2800 Plymouth Road, Ann Arbor, MI 48105. Fax: 313/996-2531; e-mail: resume@aa.wl.com.** "Equal Opportunity in Action."



PARKE-DAVIS
People Who Care

TENURE-TRACK POSITION (ASSISTANT PROFESSOR EQUIVALENT) MOLECULAR NEUROBIOLOGY AND/OR MOLECULAR PHARMACOLOGY

A position is available in the National Institute on Alcohol Abuse and Alcoholism, Laboratory of Molecular and Cellular Neurobiology (Chief, Forrest F. Weight, M.D.) to develop an independent research program investigating the molecular basis of alcohol effects in the nervous system. Expertise in the investigation of the molecular biology and/or molecular pharmacology of neurotransmitter receptors or membrane ion channels is required. This includes experience in the cloning and sequence analysis of genes that encode neurotransmitter receptors or membrane ion channels and/or experience studying structure-function relationships of neurotransmitter receptors or membrane ion channels using recombinant genes, chimeras, site-directed mutagenesis, and expression in cell lines and/or oocytes.

The deadline for receipt of applications is July 15, 1996. Applicants should submit a curriculum vitae, a detailed statement of research interests, and three letters of reference to:

LMCN Search Committee
c/o Ms. Kathleen Hanratty
NIAAA Intramural Personnel Office
NIH, Building 31, Room 1B58
31 Center Drive, MSC 2088
Bethesda, Maryland 20892-2088



THE UNIVERSITY OF ILLINOIS AT CHICAGO

SPECIALIZED CANCER CENTER Faculty Positions in Cancer Research

The Specialized Cancer Center of the University of Illinois at Chicago is initiating recruitment for Ph.D. or M.D. faculty members. Preference will be given to applicants with research experience and novel programs in either tumor cell biology or experimental and molecular therapeutics, with an emphasis on the genetics of DNA repair, anticancer drug action and resistance, cell cycle or cell death regulation, or mechanisms of metastasis, with a goal of developing unique translational research opportunities. Tenure-track appointments at the levels of Assistant or Associate Professor will be made directly into the Cancer Center, with secondary appointments in appropriate academic departments of the College of Medicine. The UIC Cancer Center is part of a larger medical and cancer community in the Chicago area and affords opportunities for scientific interactions both on and off campus. The Cancer Center laboratories are located in the new, state-of-the-art Molecular Biology Research Building that houses investigators from other departments who have research programs in tumor cell biology, genetics, experimental therapeutics, experimental hematology, virology, medicinal chemistry, structural biology, and related disciplines. Applications from women and minorities are particularly encouraged. Candidates are asked to send a letter providing a brief synopsis of research interests and plans, a current curriculum vita, and the names and phone numbers of at least three references to:

William T. Beck, Ph.D.
Director, Cancer Center (M/C 569)
UIC College of Medicine
900 S. Ashland Ave.
Chicago, IL 60607-7173

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

BIOGEN

OUR EXPANDING UNIVERSE

In May 1995, we filed for U.S. regulatory approval of a new treatment for multiple sclerosis. We are now in the process of building the infrastructure and capabilities we will need to commercialize this drug, which is our first proprietary product. Our record of success to date is based on the hard work and dedication of our employees. We are now seeking a select number of committed professionals with strong values to join the Biogen team.

Director – Biological Science

We are currently seeking a proven scientific leader to direct our efforts in the areas of molecular biology/molecular genetics. In this role, you will oversee the work of approximately forty talented individuals focused currently in areas of growth regulation, viruses, gene therapy and vascular biology. The successful candidate will hold a Ph.D. or M.D./Ph.D. in molecular sciences and have a minimum of ten years' experience. He/she will have a distinguished record of scientific achievement, a strong publication history and be well-versed in the use of molecular technique. Industry experience is desirable, but not required.

Biogen offers what few companies in our industry can – Professional Challenge, Stability, Growth, and one of the strongest financial profiles in the industry. In addition, our compensation and benefits package, including equity participation, is one of the best in the industry, and is designed to attract and retain the finest talent available. If you are one of the best, this is your opportunity to join our expanding universe. Please forward your resume to the address below.

Biogen, Dept. JT, Biogen, Inc., 14 Cambridge Center,
Cambridge, MA 02142. FAX: (617) 679-2546

BIOGEN

Biogen is an Equal Opportunity Employer.
<http://www.careermosaic.com/cm/biogen>



National Center for Genome Resources

Due to unprecedented growth, the National Center for Genome Resources, a bioinformatics company based in Santa Fe, New Mexico, is seeking the following individuals to join our staff:

BIOINFORMATICS OPPORTUNITIES

GROUP LEADER
Agricultural genomics and
agricultural microbiology

GROUP LEADER
Mammalian (including human)
pharmacogenetics/toxicology

GROUP LEADER
Bioremediation and
environmental microbiology

GROUP LEADER
Signal transduction and
functional neuroscience

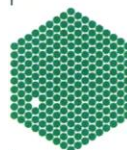
Aggressive, entrepreneurial self-starters needed to initiate and grow significant research and development programs in biotechnology database development and information services. The successful candidates will work with experienced database and user services groups and a professional software development team. Ph.D. and relevant postdoctoral experience, high-quality publication record, and a proven ability to raise research funds are required. Experience in or with the commercial sector a definite plus.

NCGR offers a competitive salary and benefit program including a relocation package. If you are interested in being a key member of our organization please submit your C.V. including references to the address below. Please indicate position of interest. Closing date for applicants is July 15, 1996.

To find out more about
NCGR, you may access
our home page at
www.ncgr.org.

E-mail to: hr@ncgr.org
(in ascii or postscript format)
via fax to: 1-505-982-7690
via mail to: NCGR
1800 Old Pecos Trail
Santa Fe, NM 87505 EOE.

GLOBAL CAREER OPPORTUNITIES



EMBL

The European Molecular Biology Laboratory (EMBL), an international research organization with its Headquarters Laboratory in Heidelberg (Germany), Outstations situated in Grenoble (France), Hamburg (Germany) and Hinxton (UK), and a Research Programme at Monterotondo (Italy) is conducting an open search for:

COORDINATOR OF THE DEVELOPMENTAL BIOLOGY PROGRAMME

The EMBL has started a new Developmental Biology Programme in Heidelberg. The Programme is focused on pattern formation and morphogenesis in vertebrates and invertebrates using approaches that encompass genetics, cell biology, biochemistry and molecular biology. EMBL is well suited to research in Developmental Biology because of its multi-disciplinary scope, its strength in related areas, its highly collaborative environment and its tradition.

The new Programme will closely interact with and occupy new space adjacent to the Cell Regulation Programme which emphasizes signal transduction, cell cycle and differentiation. Strong links are also expected with the Cell Biology and Gene Expression Programmes. Additional interactions are possible with Cell Biophysics, Structural Biology and Biochemical Instrumentation, as well as with the new Programme of Mouse Genetics at Monterotondo.

The Developmental Biology Programme was started this year with three research groups working on *Drosophila* development (S. Cohen, A. Ephrussi, M. Mlodzik), formerly belonging to the Differentiation/Cell Regulation Programme. Three additional groups are to be established from early 1997 to mid-1998.

For the position of Coordinator we are seeking active scientists with outstanding accomplishments who share our vision and collaborative outlook, and who are also skilled in personal interactions and resource management.

EMBL is an inclusive, equal opportunity organization.

The short list will be completed on 15 July 1996; applications are invited until that date.

For further information please contact the Director General and Chair of the Search Committee, Professor Fotis C. Kafatos, e-mail: kafatos@embl-heidelberg.de or FAX: +49-6221-387211.

To apply please send your CV and statement of research plans, quoting ref no. 96/17 to:

Head of Human Resources, EMBL, Postfach 10.2209, D-69012 Heidelberg, Germany.

Fax: +49 6221 387555

Are you at the forefront of science?

Hewlett-Packard Laboratories in Palo Alto, California is seeking several, creative, highly motivated research scientists to initiate discovery research projects with the goal of developing novel technologies for the field of measurement based Biotechnology. Hewlett-Packard Laboratories is the non-profit, central research division for the Hewlett-Packard Company. The goal of our research groups is to develop a long-term, visionary technology base for the Hewlett-Packard Company. The Hewlett-Packard Company's investment in research is one of the highest among Fortune 500 companies. Our research facility is located in Palo Alto California, adjacent to the Stanford University Campus.

Our current recruiting effort is dedicated to putting together a strong, internationally recognized research group focused on the Biochemistry, Molecular Biology, and Cell Biology of RNA. Qualified individuals will have the highest level of academic credentials, strong publication records, and will have demonstrated the ability to initiate and perform "cutting-edge" basic research. Members of this research group will be required to continue aggressively pursuing publications, patents and academic collaborations. Projects initiated by these individuals will lead to development of new products for laboratory researchers in the biomedical, biopharmaceutical, environmental and food science industries, and for clinicians operating in hospitals, clinics, and physicians' offices.

Positions are open for Ph.D. level researchers with several years of post-doctoral experience in the following areas:

- Biophysical Chemistry
- Physical Biochemistry
- Polymerase Biochemistry
- Oligonucleotide Chemistry
- RNA Biochemistry
- RNA Molecular Biology
- RNA Cell Biology

Hewlett-Packard Company offers a competitive salary and benefits package. To apply for these Palo Alto, California openings, please send your CV to: Hewlett-Packard Employment Response Center, Attn: Ad #4066/46419, MS20AZ, 3000 Hanover Street, Palo Alto, CA 94304-1181, fax (415) 852-8138, or e-mail to: elaine_yamani@hp2200.desk.hp.com Hewlett-Packard Company is an equal opportunity employer dedicated to affirmative action and work force diversity.



PREDOCTORAL AND POSTDOCTORAL TRAINING PROGRAMS

RESEARCH PROGRAMS
Genome Organization
Developmental Biology
Metabolic Diseases
Neurogenetics
Genetics of Complex Traits
Cancer Genetics
Immunology/Hematology
Bioinformatics

The Jackson Laboratory: a unique research environment with unparalleled mouse resources.

Letters of inquiry should include: curriculum vitae, statement of research interests, list of publications, and names of three references. (Predoctoral programs are in conjunction with the University of Maine and Yale University.)

To apply or request further information, contact: **Suzanne Serreze, The Jackson Laboratory, 600 Main St., Bar Harbor, ME 04609-1500. Phone: 207/288-6420; FAX: 207/288-6079; email: sbs@jax.org. EE/AA Employer.**

GLOBAL CAREER OPPORTUNITIES

Peptor is a young, dynamic biotechnology company focused on the development of peptido-mimetic therapeutics through innovative concepts in peptide chemistry and rational drug design. Through the use of a proprietary, peptide cyclization technology, and a highly multidisciplinary team of scientists, we plan to introduce drugs that treat cancers as well as autoimmune and degenerative disorders. We are seeking creative scientists (M.S. through Ph.D. levels) in the following departments:

Peptide Chemistry

- Experience in organic synthesis.
- Ability to design and implement novel research programs in the area of peptide synthesis.

Molecular Modeling

- Strong chemical/biological background, as well as broad experience in molecular modeling.
- Ability to design and implement new algorithms.

Please submit application, including a list of publications and two references, to:

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Rehovot 76326
Israel
or
Fax: 972-8-940-7737

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8 NOVEMBER
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For more information contact:
Janis Crowley
Phone: (202) 326-6532;
Fax: (202) 682-0816

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and a Great Location*

STRATAGENE is one of San Diego's largest and most stable life science research companies. With about 225 employees, the company provides significant advancement opportunities. Stratagene is located in scenic La Jolla, in close proximity to UCSD, The Salk Institute, and The Scripps Research Institute, within minutes of the Pacific Ocean and Torrey Pines State Park. Our long track record of profitability has also created a financially independent and secure organization, unlike that of many early stage biotechnology companies.

R&D STAFF SCIENTIST

Qualified candidates will possess a Ph.D. and at least 2 years of postdoctoral experience with expertise in library construction and screening, genomics, virology, vector construction and eukaryotic molecular genetics. Experience with gene transfer and vector systems is important. We are looking for excellent technology development skills. No. 21028-96RS

R&D STAFF SCIENTIST

Qualified candidates will possess a Ph.D. and at least 1 year of postdoctoral experience or equivalent or at least 8 years of relevant laboratory experience with demonstrated ability in cell culture, mammalian transfection techniques and RT-PCR primer design. No. 21024-96RS

POSTDOCTORAL SCIENTIST

Qualified candidates will possess a Ph.D. in Molecular Biology or biochemistry, extensive experience in sequencing nucleic acids and excellent quantitative skills. An understanding of physical chemistry is highly desirable. Project work is located in Washington, D.C., in collaboration with the Naval Research Laboratory. No. 21060-95A

PRODUCTION ASSOCIATE

Qualified candidates will possess a B.S. or M.S. in Biological Sciences or equivalent with 3-4 years of laboratory experience in molecular biology. Laboratory experience in RNA and DNA isolation, cloning and cDNA/genomic library construction is required and a background in gene expression, lambda phage, plasmids, and filamentous phage is preferred. Nos. 32033-96R & 32034-96R

RESEARCH ASSOCIATE

Qualified candidates will possess a B.S. in Microbiology, Molecular Biology or Biochemistry or equivalent and 2-3 years of laboratory experience. Job duties may include nucleic acid isolation and purification, radioactive and non-radioactive nucleic acid labeling, PCR, DNA sequencing, and northern and Southern hybridization. Experience cloning nucleic acids is preferred. Nos. 21029-95A & 21037-96A

SENIOR RESEARCH ASSISTANT

Qualified candidates will possess a B.S. in Molecular Biology or equivalent and relevant laboratory experience. Courses in molecular biology and genetics are essential. Good written and verbal communication skills are required. Exciting entry-level position for Genetic Systems research group. Diverse projects include PCR applications and construction and characterizations of vectors and hosts. No. 31001-96A

Stratagene offers an attractive salary and benefits package commensurate with your experience and qualifications. For consideration, please send your resume, referencing the appropriate job number, to: Stratagene, 11011 N. Torrey Pines Rd., La Jolla, CA 92037, Attn: Professional Staffing/No. ____ Principals only. Stratagene is an Equal Opportunity Employer.





MOLECULAR CYTOGENETICS CORE FACILITY DIRECTOR

AT THE UNIVERSITY
OF UTAH

A research track faculty position is available through the Huntsman Cancer Center at the University of Utah Health Sciences Center. The primary responsibility for the successful candidate will be the direction of operations of a core service laboratory that provides state-of-the-art molecular cytogenetic techniques to investigators. Resources will also be available to support the development of an independent research program. Individuals with a background in human genetics, cancer, mapping and imaging technologies will be given priority. Applicants are expected to have completed a minimum of two years of a postdoctoral fellowship in a related area, and to show potential for the generation of extramural research support. Please send curriculum vitae, a one-page research statement, and the names of three references to:

Arthur R. Brothman, Ph.D.

**Departments of Pediatrics and Human Genetics
1C204 SOM**

**University of Utah Health Sciences Center
Salt Lake City, UT 84132**

*The University of Utah is an EEO/AA employer
and encourages applications from women and minorities.*

AWARDS



The AAAS International Scientific Cooperation Award, presented at the AAAS Annual

Meeting in February 1997 in Seattle, Washington, is given to an individual or small group working together in the scientific or engineering community who makes outstanding contributions to further international cooperation in science or engineering. The award is open to all regardless of nationality or citizenship. Nominees must be living at the time of their nomination. The recipient receives US \$2500 award, a commemorative plaque, complimentary registration, and reimbursement for reasonable travel and hotel expenses. Nominations should be typed and include the following information: nominator's name, address, phone number; nominee's name and title, institutional affiliation, address, phone number; two letters of support; curriculum vitae (3 page maximum); a summary statement of actions that forms the basis for the nomination (250 words); a longer detailed statement of the actions for which the candidate is nominated; any documentation (books, articles, or other materials) illuminating the significance of the nominee's achievement may also be submitted. All materials become the property of AAAS. Completed nominations should be submitted to: Awards Coordinator, Development Office, American Association for the Advancement of Science, 1200 New York Avenue, N.W., Washington, D.C. 20005, U.S.A. FAX: (202) 789-2008. All materials must be received by August 1, 1996.

JUST ADDED TO SCIENCE'S 1996 EDITORIAL CALENDAR...

Career Opportunities in Bioinformatics

12 July

SCIENCE is pleased to announce a special editorial feature on "Career Opportunities in Bioinformatics" in the 12 July issue. Don't miss this opportunity to place your recruitment message and reach scientists with bioinformatics experience.

Benefits of running an ad in this issue include:

- A "Bioinformatics" banner to highlight your organization's career opportunities.
- A directory listing all bioinformatics advertisers.
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For more information, or to reserve space, please call:

US: Janis Crowley, phone: (202) 326-6532; fax: (202) 289-6742.

Europe: Debbie Cummings, phone: +44 (0) 1223 302067; fax: +44 (0) 1223 576208.

SCIENCE
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HTS RESEARCH ASSOCIATE

Neurogen Corporation, a rapidly growing biopharmaceutical company focusing on the development of therapeutics for neuropsychiatric disorders, is expanding its staff in high throughput screening.

Neurogen is currently seeking a highly motivated person to fill a Research Associate position. Candidates should have either a B.S. or M.S. in biological sciences with at least 2 years of academic or industrial lab experience. Experience in recombinant DNA techniques, including gene isolation, cloning, transfections, and PCR, is essential. Hands-on experience in development of cell-based reporter assays is preferred.

Neurogen is located in Branford, Connecticut, close to New Haven. We offer a comprehensive salary, equity participation, 401K plan, health and medical programs, as well as relocation assistance.

Qualified candidates are invited to send resumes with cover letter to **Personnel Department, P.O. Box 859, Branford, CT 06405-0609**.

Neurogen Corporation



POSTDOCTORAL POSITIONS

The Biosciences and Biotechnology Group (CST-4) of the Chemical Sciences and Technology Division invites applications for postdoctoral appointments. Exceptional candidates will be considered for Los Alamos Postdoctoral Fellowships or the highly competitive J. Robert Oppenheimer Fellowship. CST-4 conducts research at the interfaces of biology, chemistry, biochemistry, and physics to solve complex problems in health, the environment, national security, and energy. We use state of the art methods in laser and optical spectroscopies, time-resolved spectroscopies, NMR spectroscopy, neutron and x-ray scattering, theory and modeling, biochemistry, molecular biology, stable isotope chemistry, and synthesis to address challenging problems in the following areas.

- Stable isotope chemistry (synthesis and biosynthesis of labeled amino acids, proteins and DNA)
- Biochemical regulation and signaling
 - Asymmetric synthesis
- Protein folding and protein dynamics
 - Inorganic photochemistry and photophysics
- Bioinorganic chemistry of oxygen activation and electron transfer
- Actinide and toxic metal chemistry in the environment
- Materials chemistry in support of sensor development
- Biodegradation of recalcitrant organic compounds
- Health care applications of lasers, optical spectroscopies, and optical physics
- Computational modeling of mechanical properties of tissues and the human body
- Vibrational spectroscopies (ultrafast; sum-frequency generation; Raman imaging)
- Multidimensional optical spectroscopy - optical analogs of NMR
- Environmental diagnostics using molecular spectroscopy tools and sensors
- Organic, biochemical, and inorganic structural determination by NMR and neutron and X-ray scattering

A Ph.D. in Chemistry, Biochemistry, Molecular Biology, Biophysics, or related area within the last three years or soon to be completed is required. Annual salary ranges from \$42,740 to \$46,180, plus a generous comprehensive benefits package. For consideration, submit two copies of a curriculum vitae, publications list, and the names and addresses of 3 references to: Postdoctoral Programs, PD96052, MS P290, Los Alamos National Laboratory, Los Alamos, New Mexico, 87545. For more information about the Laboratory's Postdoctoral Program and our division, access <http://www.hrlanl.gov/html/postdoc> and http://mwanal.lanl.gov/CST/CST_welcome.html. Affirmative Action/Equal Opportunity Employer. Individuals with disabilities needing reasonable accommodation should call (505) 667-8622. A TDD is available by calling (505) 665-5357. Los Alamos National Laboratory is operated by the University of California for the U.S. Department of Energy.

Los Alamos
NATIONAL LABORATORY



National Center for Genome Resources

Due to unprecedented growth, the National Center for Genome Resources, a bioinformatics company based in Santa Fe, New Mexico, is seeking the following individuals to join our staff:

BIOINFORMATICS OPPORTUNITIES

GROUP LEADER Database Services

Experienced managers with strong team-building and communication skills needed to lead the database and user services components of the Genome Sequence DataBase and other databases provided by the National Center for Genome Resources. The successful candidates will lead experienced database and user services groups in a growth-oriented setting. Experience in day-to-day operation of production relational databases, skill in SQL, familiarity with Unix, and a Masters degree or equivalent experience required for both positions. PERL, AWK, Unix shell tool, and C or C++ expertise required for Database Services position and a plus for User Services position. Knowledge of molecular biology, including laboratory experience, required for User Services position.

NCGR offers a competitive salary and benefit program including a relocation package. If you are interested in being a key member of our organization please submit your C.V. including references to the address below. Please indicate position of interest. Closing date for applicants is July 15, 1996.

To find out more about NCGR, you may access our home page at www.ncgr.org.

GROUP LEADER User Services

E-mail to: hr@ncgr.org
(in ascii or postscript format)
via fax to: 1-505-982-7690
via mail to: NCGR
1800 Old Pecos Trail
Santa Fe, NM 87505 EOE.

PHARMACOLOGICAL SCIENCES

Postdoctoral Scientist

SmithKline Beecham, a worldwide leader in pharmaceutical research, has a challenging opportunity for a Postdoctoral Scientist to join our Department of Cardiovascular Pharmacology.

The selected individual will perform site directed mutagenesis on catecholamine receptors, and characterization of the pharmacology of these receptors via radioligand binding assay, in order to determine potential sites of agonist-receptor interaction. Duties also will include advising staff on RNA isolation and preparation of subtractive libraries.

Communication of results via publications and presentations at scientific meetings is expected.

Qualified candidates will have a PhD in Pharmacology or Molecular Biology, plus experience in performing site directed mutagenesis and transient expression of mutant proteins. Experience with RNA isolation from native tissues is also required. Familiarity with adrenoceptor pharmacology and radioligand binding assays is desirable. Excellent oral and written communication skills are essential.

Our state-of-the-art research facility is located in suburban Philadelphia. We offer a competitive compensation/benefits package and a stimulating team environment. For confidential consideration, send your resume to: SmithKline Beecham Pharmaceuticals, Job Code H5-0455, P.O. Box 2645, Bala Cynwyd, PA 19004. We are an Equal Opportunity Employer, M/F/D/V.

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POSITIONS OPEN

SENIOR RESEARCH TECHNOLOGIST

Job consists of preparing guinea pig hearts by separating individual heart cells and conducting experiments on single cells. The studies include single and whole cell patch clamping of enzymatically dissociated cardiac and smooth muscle cells. Moreover, data analyses and interpretations are necessary along with presentations of final results in the form of scientific publications. Specifically, the investigator will examine how anesthetics alter the second messenger system in isolated cells and how these changes influence the sarcolemmal voltage-sensitive currents. These investigations are coordinated as a major effort to understand the mechanisms by which anesthetics in combination with drugs modulate cardiac and smooth muscle electrophysiology.

Required: College degree in physiology, biochemistry, or related sciences and previous experience in biomedical research.

Annual salary: \$24,000, plus fringe benefits, 40 hours per week, 8:00 a.m. to 5:00 p.m. Send two copies of résumé to: M. Brooks, JETS-ALC, P.O. Box 7972, Madison, WI 53707-7972. Reference Case Number 960159.

POSTDOCTORAL FELLOW positions available August 1996 in the molecular neurobiology of crustacea and the molecular neurophysiology of olfaction. Training opportunities include recombinant DNA, biochemistry, digital imaging, and electrophysiology. Please submit a curriculum vitae, statement of research interests, and names of references to: **Dr. Timothy S. McClintock**, Department of Physiology, University of Kentucky College of Medicine, 800 Rose Street, Lexington, KY 40536-0084. FAX: 606-323-1070; Email: mcclint@pop.uky.edu. An Equal Opportunity/Affirmative Action Employer.

HARVARD MEDICAL SCHOOL

TWO POSTDOCTORAL RESEARCH FELLOW positions available in the Laboratory for Membrane Transport to work on two different projects: Project 1 concerns the molecular mechanisms of action of new cytostatic drugs under evaluation for treatment of cancer and other proliferative diseases. Studies include the effect of the drugs on cell cycle regulation, early mitogenic signals, protein synthesis, and the functional and chemical characterization of the drug receptors. Project 2 concerns the membrane attack complex (MAC) of complement. Studies will include understanding the molecular interaction of MAC with homologous restriction proteins and developing new uses of the MAC.

Applicants must have an M.D., a Ph.D., or the equivalent, and experience with cell and molecular biology techniques and protein chemistry. Please send curriculum vitae, statement of research experience/interests, and names of three references to: **Jose A. Halperin, M.D.**, Laboratory for Membrane Transport, Harvard Medical School, 240 Longwood Avenue, C1-607, Boston, MA 02115. Email: jhalperi@warren.med.harvard.edu.

POSTDOCTORAL FELLOW or RESEARCH ASSOCIATE position is available immediately. The project involves cloning of defense genes from *Brassica napus*, and analysis of plant/pathogen interactions utilizing constitutive and reporter-gene constructs in transgenic plants. Applicants must have a Ph.D. in plant pathology, genetics, biochemistry, or related field. Send curriculum vitae to: **Dr. Brian Fristensky**, Department of Plant Science, University of Manitoba, Winnipeg, Manitoba R3T 2N2 Canada. FAX: 204-261-5732; Email: frist@cc.umanitoba.ca. The University of Manitoba encourages applications from qualified women and men, including members of visible minorities, aboriginal people, and persons with disabilities. The University offers a smoke-free environment, save for specially designated areas. This advertisement is directed to Canadian citizens and permanent residents.

MOLECULAR IMMUNOLOGY

A **POSTDOCTORAL POSITION** is available immediately to study hormonal control of cytokine gene expression in T lymphocytes. This NIH-funded position will emphasize interferon- γ promoter analysis using gel shift methods, footprinting, and mutagenesis of promoter-reporter constructs. A molecular biology background is essential; an immunology background is desirable. Send curriculum vitae, a statement of research interests, and the names of three references to: **Dr. Colleen E. Hayes**, Department of Biochemistry, University of Wisconsin, 420 Henry Mall, Madison, WI 53706.

POSITIONS OPEN

FACULTY POSITION

Microvascular and/or Cerebrovascular Physiology Oregon Health Sciences University

Candidates are sought for a non-tenured faculty position at the rank of **ASSISTANT or ASSOCIATE PROFESSOR** in the Division of Neurosurgery. The successful candidate will be expected to develop an independent vascular research program and to collaborate with clinical faculty in the Division. Individuals with an interest in microvascular or cerebrovascular physiology are encouraged to apply. Interested applicants should submit curriculum vitae, statement of research interests, and names of three references to: **Johnny B. Delashaw, Jr.**, Associate Professor of Neurosurgery and Otolaryngology, Division of Neurosurgery at The Oregon Health Sciences University, L472, 3181 S.W. Sam Jackson Park Road, Portland, OR 97201. Telephone: 503-494-7737; FAX: 503-494-7161; Email: leslies@ohsu.edu.

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LABORATORY DIRECTOR

LABORATORY DIRECTOR position open for a Hemostasis Reference Laboratory. Highly visible position entails scientific direction of a nationally renowned reference laboratory and direction of related product development. Position requires an M.D. or Ph.D. with extensive clinical laboratory experience in the areas of hemostasis and thrombosis. Opportunities for collaboration with research investigators at The Blood Center's Blood Research Institute.

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c/o Human Resources Department
P.O. Box 2178
Milwaukee, WI 53201-2178

Equal Opportunity Employer

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Applied Spectral Imaging (ASI) is a growing venture with offices in Carlsbad, California. ASI has developed a revolutionary technology that combines Fourier spectroscopy, imaging, and sophisticated algorithms. ASI seeks a highly motivated individual to introduce this exciting technology to customers and to work with leading investigators to develop applications in molecular cytogenetics, pathology, and related fields. The successful candidate will have an M.S. or Ph.D. in a biological and/or physical science and be experienced in fluorescence microscopy, CCD imaging, spectroscopy, and computing. Hands-on experience with preparing FISH samples is highly desirable. Must be willing to travel extensively. Interested candidates should send résumé to ASI by FAX: 619-929-2842.

SENIOR POSTDOCTORAL FELLOWSHIP—Mayo Clinic Jacksonville's Department of Research is seeking a senior postdoctoral fellow to fill a position in the Alzheimer's disease area. Work will be in the laboratory of **Dr. Jeffrey Kelly**, with interaction with other laboratories, including those of **Drs. Steven Younkin, Terrone Rosenberry**, and **Yuan-Ping Pang**. The setting is a dynamic, well-equipped research environment. The candidate is expected to aggressively seek extramural funding, be enthusiastic about having autonomy, and be willing to supervise up to two co-workers. Individuals with a background in bio-organic chemistry and protein bio-physical chemistry, and up to one prior postdoctoral position, are encouraged to apply. Mayo provides competitive salaries and an excellent benefit package. In September 1995, *Money* magazine ranked Jacksonville Number 3 in the top 10 places to live among the 300 largest U.S. metropolitan areas. Northeast Florida's coastal location offers a pleasant climate, proximity to beaches and water sports, and good schools. Applicants should send their curriculum vitae and three reference letters to: **Steven G. Younkin, M.D.**, Ph.D., Department of Research, Mayo Clinic Jacksonville, 4500 San Pablo Road, Jacksonville, FL 32224. Mayo is an Affirmative Action/Equal Opportunity Employer and Employer.

POSITIONS OPEN

PLANT PATHOLOGIST (RESEARCH AFFILIATE)

The United States Department of Agriculture (USDA), Agricultural Research Service (ARS), Crop Production and Pest Control Research Unit, has an opening for a **PLANT PATHOLOGIST** to study the molecular genetics of resistance to fungal pathogens in wheat. Ph.D. in plant pathology or related scientific discipline required. Experience in molecular biology techniques and knowledge of genetics, plant breeding, and plant disease resistance desirable. Candidate will be part of a team studying the *Septoria* diseases of wheat. Appointment is for two years and includes benefits. Salary commensurate with experience (\$30,106 to \$39,140 per year). Send résumé to: **Dr. Stephen B. Goodwin**, USDA, ARS, MWA, Department of Botany and Plant Pathology, 1155 Lilly Hall, Purdue University, West Lafayette, IN 47907-1155. Telephone: 317-494-4635. Applications in response to this advertisement must be marked ARS-RB-N26-081. Applications accepted until position filled. There are some employment restrictions for non-U.S. citizens. USDA/ARS is an Equal Opportunity Employer.

EXPERIMENTAL HEMATOLOGIST AND STEM CELL BIOLOGIST

TWO RESEARCH POSTS are available to participate in a myeloid leukemia research program in a multidisciplinary environment at the Rush Cancer Institute, a division of Rush-Presbyterian-St. Luke's Medical Center in Chicago. Candidates with a Ph.D. or M.D./Ph.D., as well as postdoctoral experience in hematopoietic stem cell culture, flow cytometry, and signal transduction mechanism, are encouraged to apply. Faculty appointment possible with appropriate experience. Applicants should send a curriculum vitae with bibliography, description of research interests and goals, and names of three references to: **Dr. Sucai Bi** or **Dr. Harvey Preisler** at the Rush Cancer Institute, 1725 West Harrison Street, Suite 809, Chicago, IL 60612. Telephone: 312-563-2190; FAX: 312-455-9635.

RESEARCH ASSOCIATE

Vanderbilt University School of Medicine

POSTDOCTORAL POSITIONS are available to investigate the molecular biology of novel genes involved in neuronal morphogenesis as well as tumor progression and their biochemical mode of action (*Neuron*, 15:273-286). Minimum requirements include Ph.D. or M.D. degree(s) and significant research experience in molecular biology and recombinant DNA techniques, microscopy, tissue culture, and protein purification. Experience in *Drosophila* genetics or other genetic systems is a plus.

Please send your résumé and three references to: **Vanderbilt University School of Medicine, Attention: Dr. Peter Kolodziej**, 802 Light Hall, Nashville, TN 37232-0295. Equal Opportunity Employer.

POSTDOCTORAL POSITION

A **POSTDOCTORAL RESEARCH** position in molecular virology is available. The project involves the study of human immunodeficiency virus Integrase (IN) with emphasis on genetic and biochemical approaches to dissect the role of host transcription factors in integration, protein-protein interactions of HIV IN and structure-function relationship of IN and the host factor. Applicant must hold a Ph.D. degree in biochemistry, molecular biology, molecular virology, or a related field. Minimal requirements are an expertise in molecular biology and a serious interest in AIDS research. Applicants should send curriculum vitae and names and addresses of three references to: **Dr. Ganjam V. Kalpana**, Department of Molecular Genetics, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461. An Equal Opportunity Employer.

BIOTECHNOLOGY OF ENTERIC DISEASES

POSTDOCTORALS available with **Tracy D. Wilkins** in the new Biotechnology Center at Virginia Tech, Blacksburg, Virginia. Projects: metalloprotease enterotoxin of *Bacteroides fragilis*; regulation of *Clostridium difficile* toxins; synergy of toxins in the colon. Funding: NIH/private; details: <http://www.biotech.vt.edu>. Apply via Email: wellsmp@vt.edu. (You will be trained for jobs in industry or academia; I have started two companies.) Applications accepted through July 15, 1996. Virginia Tech does not discriminate against employees, students, or applicants on the basis of race, color, sex, sexual orientation, disability, age, veteran status, national origin, religion, or political affiliation. Anyone having questions concerning discrimination should contact the Equal Opportunity/Affirmative Action Office.

MOLECULAR BIOLOGIST

Merck Research Laboratories in Rahway, New Jersey is seeking a Molecular Biologist with a background in Ion Channels to join our Department of Membrane Biochemistry and Biophysics.

The successful candidate will use molecular biological techniques to map drug binding sites on ion channels, clone new ion channel genes and explore the therapeutic potential of ion channels as drug targets. Candidates should have a Ph.D. in one of the Biological Sciences and at least 2 years of Postdoctoral experience. Previous work on channel expression would be a benefit, but is not required.

Merck Research Laboratories are located in Rahway, NJ, approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. For consideration, send your resume with the names of three references to: **Merck Research Laboratories, Human Resources, AD #197, P.O. Box 2000, RY80A-3, Rahway, NJ 07065.** EOE/AA/VH/Employer.



Boehringer Mannheim Corporation

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Manager Research & Development

Dept. 480469

This position requires a degree in an area of Life Science (Ph.D. in Chemistry, Biochemistry or a related area preferred) and at least 3 years of new product development experience. Research experience in a biochemical or diagnostic related field preferred. Strong problem solving, leadership, and communication skills are essential as well as detailed knowledge of solid phase immunoassays using gold sol or latex particle technology and demonstrated experience in immunochemistry techniques. Responsibilities will include managing multifaceted projects involving close interaction with Business Development, Engineering, Manufacturing, Quality Control and Marketing groups.

We offer an excellent compensation and benefit program including a 401(k). Qualified applicants should send a resume, including salary requirements and Dept. #, to:

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Job Line 1-800-349-7035

TENURE TRACK POSITION: MOLECULAR GENETICS OF DRUG ABUSE

Tenure track position available to lead a research program that will identify genes contributing to vulnerability to drug abuse. Candidates should have experience in human genetics and molecular genetics, with preference given to expertise in human genetics of nonMendelizing disorders. Position supported by fellows, technical staff, and laboratory space. Candidates must hold M.D. and/or Ph.D. degrees and be U.S. citizens or permanent residents; selectee will be evaluated for tenure within a period not-to-exceed six years. Please send a curriculum vitae with bibliography, statement of research interests and goals (not-to-exceed two pages), and three letters of recommendation to:

**G. R. UHL, M.D., Ph.D.
MOLECULAR NEUROBIOLOGY
INTRAMURAL RESEARCH PROGRAM
NATIONAL INSTITUTE ON
DRUG ABUSE/NIH
P O Box 5180
BALTIMORE, MARYLAND 21224**

Competitive salary levels,
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SEARCH FOR TWO SENIOR LEVEL POSITIONS

DHHS, PHS, Food and Drug Administration (FDA)/Center for Biologics Evaluation and Research (CBER)/Office of Vaccines Research and Review (OVRR)/Bethesda, Maryland

POSITION ONE: DIRECTOR, DIVISION OF ALLERGENIC PRODUCTS AND PARASITOLOGY

The Director is responsible for the planning and conducting of research related to the development, manufacture, testing, and actions of allergenic products or antigen specific immunoregulators, and parasitic vaccines and adjuvants. Incumbent directs and supervises control tests and reviews the evaluation of manufacturer's protocols to ensure that specific requirements for release are met. Applicants must be able to evaluate the safety, efficacy, and public health significance of the above products; demonstrate leadership and managerial ability; and deal effectively with government and pharmaceutical officials, representatives of the scientific and academic communities, and national and international health organizations. Relevant laboratory research by the Division Director is encouraged.

Applicants should possess the ability to advise in scientific areas including immunology, biochemistry, biophysics, and molecular biology, in the areas of allergens and allergenic products and parasitic diseases.

POSITION TWO: CHIEF, LABORATORY OF DNA VIRUSES, DIVISION OF VIRAL PRODUCTS

The Laboratory Chief is responsible for both basic and applied scientific research related to vaccines and immunologic products for the prevention and treatment of DNA virus infections. The incumbent will review DNA virus vaccines for approved and new indications, novel vaccines, and antigens, and will participate in CBRE review committees. Applicants must be able to evaluate the safety, efficacy, and public health significance of viral vaccines and related products; demonstrate leadership and managerial ability; and deal effectively with government and industry officials and representatives of the scientific and academic communities.

Qualifications—Physician: Applicants must have a Doctor of Medicine or Doctor of Osteopathy degree from an accredited institution and additional clinical and/or research training. Graduates of foreign medical schools must submit a copy of their permanent Education Commission of Foreign Medical Graduates (ECFMG) certificates. **Scientist:** Applicants must have a degree in immunology, biochemistry, biophysics, molecular biology, biology, microbiology, or related field and additional research training. A doctorate degree is desired. **Salary—Physicians:** Salary range for civil service positions at the GS-15 level is \$73,920 to \$95,531 per annum. In addition, physician may also be eligible for a Physicians Comparability Allowance up to \$20,000 per annum OR a Physician Special Pay up to \$148,400 based on experience, qualification, and medical specialty. **Scientists (other than MD):** Civil service salary range for GS-15 is \$73,486 to \$95,531 per annum. For POSITION ONE, scientists may be eligible for the Senior Biomedical Research Service, which pays up to a maximum of \$148,400. Positions may be filled by appointment in the U.S. Public Health Service Commissioned Corps with commensurate salary and benefits.

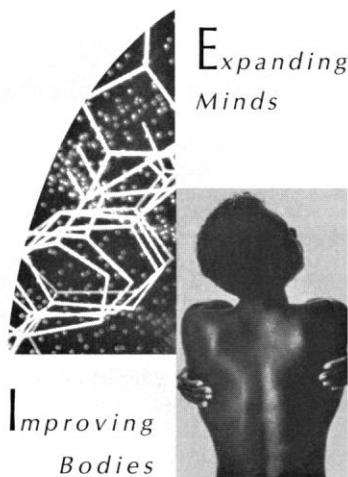
HOW TO APPLY

Call 301-827-0655 and request a copy of the vacancy announcement.

Clearly Identify Position One or Position Two

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

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

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- *Ophthalmics
- *Technologies
- *Therapeutics
- *Vaccines

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- *Research & Development
- *Information Systems
- *QA/QC

Write us at Chiron Corporation, Human Resources, Box SCL/610, 4560 Horton Street, Emeryville, CA 94608. Expand your opportunities to advance your career and to transform the practice of medicine. We welcome applications from all individuals. Women, veterans, minorities and disabled individuals are encouraged to apply.

HUMAN LIVER FOR SCIENTIFIC INVESTIGATION

NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

The Liver Tissue Procurement and Distribution System (LTPADS) is a National Institute of Health (NIH) service contract to provide human liver from regional centers for distribution to scientific investigators throughout the United States. These USA regional centers have active liver transplant programs with human subjects' approval to provide portions of the resected pathologic liver for which the transplant is performed. Therefore frozen or fresh tissue is available from subcontractors for the usual forms of childhood and adult cirrhosis, fulminant liver failure, chronic rejection, and certain inborn errors of metabolism. Human pathologic liver prepared according to the investigator's specifications provides the opportunity to verify if animal liver investigations are relevant to human liver pathophysiology. The preparation of these livers has been excellent for the usual molecular biologic techniques for the past ten years. "Normal" liver specimens may be requested; however, the supply is appropriately much more limited and completion of proposal requests takes a longer time than for most pathologic liver specimens. NIH investigators are given preference for identical specimen requests.

Further information and proposal forms for interested investigators can be obtained from:

Harvey L. Sharp, M.D.
Principal Investigator, LTPADS
c/o Annette Robles
Box 185 UMHC
University of Minnesota Hospitals
Minneapolis, Minnesota 55455
Telephone: (612) 624-1133
Fax: (612) 624-2682

The Proceedings of the National Academy of Sciences (PNAS) is seeking a managing editor and a business operations manager.

MANAGING EDITOR

Will evaluate manuscripts for compliance with policies; supervise maintenance of manuscript tracking and data bases of authors, reviewers, sponsors, and manuscripts; provide support to the editor-in-chief regarding manuscript submission and peer review process; track performance and scheduling of reviews; supervise staff in the processing of manuscripts; communicate modifications to authors; interpret policy and procedures for members, reviewers, and authors; respond to inquiries regarding journal policy and procedures; and prepare reports. Requires an M.A./M.S. or equivalent, preferably in English or science with a broad understanding of and interest in the sciences and at least eight years experience related to managing peer review and manuscript tracking operations for scientific, technical, medical, or professional journals. Previous managerial/supervisory experience required. Computer skills using data base applications and tracking systems and excellent oral and written communication skills also required. Please send resume in confidence to: **NAS 146 (PNAS-ME), 2101 Constitution Avenue, Washington, D.C. 20418. EOE.**

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Will prepare budgets; supervise subscription fulfillment functions and act upon changes in circulation that affect press runs or other production and financial aspects of the journal; supervise the overall relationship with providers of outsourced services to ensure compliance with contract terms; manage the advertising sales program for PNAS — for both classified and display advertising and the marketing program for PNAS circulation development, and supervise providers of these services; monitor all major financial indicators; forecast changes in costs and revenues for upcoming years and recommend to the publisher appropriate price increases in all areas of revenue; evaluate and manage electronic publishing projects; and provide detailed reports to the publisher on all aspects of journal management. Requires a B.A./B.S. or equivalent, preferably in business administration or finance with a broad knowledge and understanding of financial and marketing management in professional publishing; and at least six to seven years of experience related to managing journals, preferably in the non-profit sector. Computer skills using spreadsheet and business graphics applications essential. Previous supervisory experience desirable. Excellent oral and written communication skills required. Please send resume in confidence to **NAS 146 (PNAS-MBO) 2101 Constitution Avenue, Washington, D.C. 20418. EOE.**



NEUROETHOLOGIST

The Department of Zoology at Michigan State University is seeking a neuroethologist for a tenure-track position at the rank of assistant professor effective January 1, 1997. We seek an individual who has demonstrated the potential to be a highly productive scholar and effective teacher in our undergraduate and graduate programs. We are interested in candidates whose research interests focus on the neural mediation of behavior. Investigators with postdoctoral experience working with lower vertebrates in areas related to sensory processing, learning/memory, or neural plasticity are particularly encouraged to apply, but all qualified applicants will be considered. We anticipate that the candidate selected will complement current programmatic strengths in both neuroscience and evolutionary ecology. Send curriculum vitae, representative reprints, and three letters of reference to **Neuroethologist Search Committee, Department of Zoology, 203 Natural Science Building, Michigan State University, East Lansing, MI 48824-1115.** Application deadline is September 15, 1996. Late applicants may be considered. *MSU is an affirmative action, equal opportunity institution.*

**Molecular
Neuroscience
Department of
Developmental
Neurobiology**



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

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POSTDOCTORAL POSITIONS IN NEURONAL DEATH AND REGENERATION

St. Jude Children's Research Hospital (SJCRH) has launched a new Department of Developmental Neurobiology, dedicated to the investigation of fundamental questions in contemporary neurobiology. Presently, several postdoctoral positions are available in the laboratory of **Dr. James Morgan** to investigate **the role of gene expression in neuronal death and regeneration**. The group is broad-based with strength in molecular, cellular and developmental neurobiology although the research program emphasizes the use of transgenic and gene knock-out mice. Recently, we developed novel transgenic rodent models of neuronal death and regeneration and postdoctoral fellows will have the opportunity to utilize these animals.

Ideal candidates will have a background in neuroscience or molecular biology and be familiar with contemporary issues in the molecular basis of cell death, neurodegeneration, or neuronal regeneration. In addition, technical expertise in one or more of the following areas is expected: Neuroanatomical and neurosurgical methods, molecular biology, or the biochemistry of cell signaling.

The St. Jude campus provides a state-of-the-art scientific infrastructure that includes new custom-designed laboratories and core facilities for molecular biology, peptide and protein chemistry, genomics and transgenic/knock-out technology. The research tower presently houses approximately 300 doctoral level scientists who provide a rich and interactive scientific environment. In addition, the Department is fostering strong intellectual and collaborative ties with neuroscientists and neurologists at the University of Tennessee Medical School.

Applicants should send a CV and arrange for 3 letters of recommendation to be directed to: Dr. James Morgan, Co-Chairman, Department of Development Neurobiology, **St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105-2794.**

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

DIRECTOR

National Space Biomedical Research Institute

Universities Space Research Association (USRA), a non-profit association of eighty universities, is organizing the efforts of a consortium of life sciences research institutions which seek to operate the National Space Biomedical Research Institute (NSBRI) to be established by the National Aeronautics and Space Administration (NASA) within the next few months. We are seeking a director for the Institute.

The NSBRI is a new and exciting approach to NASA's conduct of space biomedical research. NASA anticipates that the Institute will lead the nation's space biomedical research effort. Accordingly, NASA will give the NSBRI substantial independence and significant funding to enable it to develop an overall space biomedical research plan for the nation, and to carry out a significant portion of the research identified in that plan.

The individual who will fill this challenging position will have the opportunity to shape the Institute from its inception and will play a prominent role in its ultimate success.

The successful candidate will be a U.S. citizen who: (1) possesses an international reputation in a biomedical research field relevant to space biomedicine, and (2) has proven his or her ability to successfully manage a research program. Prior association with NASA is not required.

To investigate this unique opportunity, please fax or mail your resume in confidence to:

**USRA, Division of Space Life Sciences
3600 Bay Area Boulevard
Houston, Texas 77058
Fax: (713) 244-2006**

**BE PART OF THE NEW VA
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The Department of Veterans Affairs (VA) invites applications for the position of Deputy Chief Research and Development Officer (DCRDO). The Office of Research and Development's currently appropriated budget is approximately \$250 million, supporting biomedical, health services, and rehabilitation research of more than 2,500 VA scientists (over 70% of whom are physicians). Additionally, appropriated dollars are supplemented by more than \$275 million provided from other sources.

VA's research program is committed to patient-oriented research encompassing the entire spectrum from basic science to clinical applications of new knowledge. The incumbent will have oversight responsibility for the managerial and scientific aspects of the research program. The DCRDO will assist the Chief Research and Development Officer (CRDO) in policy development, budget formulation and distribution, management of peer review (including investigator-initiated research and career development programs), research dissemination, and technology assessment. The incumbent will have a critical role in the organizational restructuring of this program.

Applicants must be U.S. citizens and must possess an active and current license to practice in their respective discipline(s). Candidates are expected to have a strong scientific and managerial background, and to hold an M.D., D.D.S., or earned Ph.D. Salary is \$129,344—\$167,292 for physicians, \$99,844—\$124,792 for dentists, and \$81,278—\$100,939 for allied health professionals/non-clinician managers.

Applicants should forward a curriculum vitae to: **Department of Veterans Affairs, Management and Administrative Support Office (163B), 810 Vermont Ave., NW, Washington, DC 20420.** Curriculum vitae must be received no later than July 31, 1996. *The Department of Veterans Affairs is an Equal Opportunity Employer.*

GLOBAL CAREER OPPORTUNITIES

FACULTY of SCIENCE and ENGINEERING

DIVISION of BIOLOGICAL SERVICES

CHAIR OF MOLECULAR BIOLOGY

Applications are invited for the established Chair of Molecular Biology at the University of Edinburgh, previously held by Professor Sir Kenneth Murray FRS (currently Biogen Research Professor).

The University plans to strengthen and expand research in Vertebrate Developmental Biology, and the Professor will be expected to provide leadership for this initiative. The appointee will be located in high grade facilities in the Centre for Genome Research. The Centre is currently funded by the BBSRC to address fundamental questions in mammalian biology, using embryonic stem cell and transgenic approaches.

The Professor is expected to develop a strong independent research programme that will complement the research of the Centre.

Candidates should have an outstanding record and excellent future potential in research. The post is tenured and salary will be on the Professorial scale.

Please quote REF:SC 696256.

Further information can be obtained from the Secretary to the University, or for informal enquiries, telephone

Prof W G Hill ((+44) (0)131-650-5525, or fax -6556) or Professor A P Bird (-5670) or Dr A G Smith (-5828).

Applications in writing (fourteen copies, except for candidates from overseas who need submit only one copy), including curriculum vitae and giving names and addresses of three referees, should be lodged with

THE SECRETARY TO THE UNIVERSITY,
THE UNIVERSITY OF EDINBURGH,
1 ROXBURGH STREET, EDINBURGH EH8 9TB.

Closing date: 31 July 1996.



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POSITIONS OPEN

Position available for **RESEARCH FELLOW** in Human Metabolism/Nutrition. The requirements include Ph.D. or M.D. degree and an interest in the area of lipoprotein metabolism, free radical biology, or nutritional biochemistry. The applicant should have a sound background in biochemistry. It is desirable that he or she has had exposure to lipoprotein research and cell culture techniques, as well as some training in molecular biology. The position is available on July 1, 1996. Interested applicants should write to:

I. Jialal, M.D.
UT Southwestern Medical Center
5323 Harry Hines Boulevard
Dallas, TX 75235-9072
FAX: 214-648-8037

POSTDOCTORAL POSITIONS CELL BIOLOGY-MAYO CLINIC

Position available to study cytoskeletal regulation of vesicle-based protein secretion and endocytosis in epithelial cells. Applicants must have a Ph.D. or M.D. degree with expertise in molecular, biochemical, or cell biological techniques.

Second position available to study the detrimental effects of alcohol on protein trafficking in cells of the liver and pancreas. Applicants should have a Ph.D. or M.D. degree and experience in biochemical, cell biological, or molecular techniques.

Send résumé and letters of reference to: Mark A. McNiven, Ph.D., 1721 Guggenheim Building, Mayo Clinic, 200 First Street SW, Rochester, MN 55905. Mayo Foundation is an Affirmative Action and Equal Opportunity Educator and Employer.

MOLECULAR NEUROPHARMACOLOGY FELLOWSHIP

Michael A. Rogawski, M.D., Ph.D.

The Epilepsy Research Branch of the National Institute of Neurological Disorders and Stroke seeks applications for an **IRTA FELLOW** to undertake structure-function studies of cloned ligand-gated ion channels with an emphasis on mechanism of drug action. Candidates should have some experience in molecular biological techniques. Applications from scientists with prior experience in transfection of mammalian cells, site directed mutagenesis, and the construction of chimeric receptors are particularly encouraged. Candidates must be U.S. citizens or permanent residents and have an M.D. or a Ph.D. in biomedical, behavioral, or related sciences. Individuals must also have less than five years of postdoctoral research experience. Interested applicants should contact: Michael A. Rogawski, M.D., Ph.D., Chief Neuronal Excitability Section, NINDS, NIH, 10 Center Drive MSC 1408, Bethesda, MD 20892-1408. Email: Rogawski@nih.gov. NIH is an Equal Opportunity Employer.

NEUROSCIENCE Ph.D. at the University of Michigan, Section of Emergency Medicine. Active areas of research in brain injury, shock, and focal/global cerebral ischemia. Collaboration/joint appointments with basic science departments available and encouraged. Please send curriculum vitae to: William G. Barsan, M.D., University of Michigan Medical Center, Emergency Department, UH B1C263, 1500 East Medical Center Drive, Ann Arbor, MI 48109-0014. Telephone: 313-936-6020. The University of Michigan is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study regulation of early mammalian development by growth factors. Position is well-funded. Open communicative lab. Training in cell and molecular biology is essential (less than four years from Ph.D.). Send curriculum vitae and names of three references to: Dan Rappolec, Ph.D., Northwestern University, 303 East Chicago Avenue, Tarry Building, Room 4-725, Chicago, IL 60611-3008. FAX: 312-908-8773; Email: drappo@casbah.acns.nwu.edu. Northwestern is an Equal Opportunity/Affirmative Action Educator and Employer.

POSTDOCTORAL RESEARCH ASSOCIATE positions are available for studies in HIV immunotherapy and vaccine development. Experience required in molecular immunology, including monoclonal antibody isolation using standard and phage display methods, and molecular biology, including site specific mutagenesis. Salary commensurate with experience. Send résumé, summary of relevant experience, and names of three references to: Dr. Abraham Pinter, Public Health Research Institute, 455 First Avenue, New York, NY 10016. FAX: 212-570-0804; Email: pinter@phri.nyu.edu.

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Krebsforschungszentrum
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Universität
Heidelberg

Professorship (C3) for

Tumovirus Immunology (Tumovirus-Host-Interaction)

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

Applicants should have outstanding scientific qualifications in the fields of tumovirus immunology, vaccine development, and/or tumovirus-host-interaction. Close collaboration with other departments within the Research Program Applied Tumor Virology and other Research Programs of the Center is desired. The position requires "Habilitation" or equivalent scientific achievements. Applications from women are encouraged.

Please send your application with a curriculum vitae, a list of publications, and references by July 31, 1996 to:

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

IMMUNOLOGY FACULTY POSITIONS

SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH

Tenure-Track positions at the Assistant or Associate Member levels are available in the Immunology Program at the Sloan-Kettering Institute. Candidates should have the ability to develop a strong, independent research program. The Immunology program has an active faculty whose research interests encompass transplantation, immunogenetics, T lymphocyte development and function, immunochemistry, gene regulation, and tumor immunology and biology. Interactions with faculty in MSKCC including other members of the Immunology Program and with the other programs in the Institute (Molecular Biology; Cell Biology and Genetics; Molecular Pharmacology; and Cellular Biochemistry and Biophysics) are encouraged. Appointment at the Cornell University Graduate School of Medical Sciences is possible. An attractive start-up package will be provided for the investigator to establish or re-establish his/her laboratory.

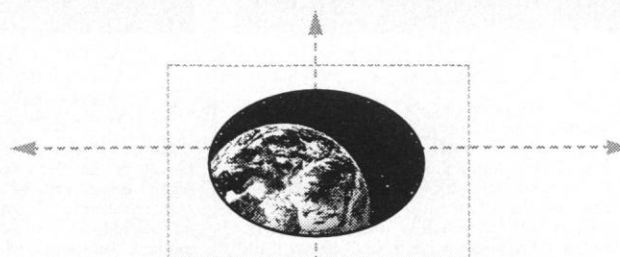
Applicants should send a Curriculum Vitae, bibliography, statement of research interests and names of three references to:



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Chairman, Immunology Program, Box 446, Sloan-Kettering Institute, 1275 York Avenue, New York, NY 10021. EOE/AA



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Postdoctoral Positions Hematopoietic Growth Factors

We have immediate Postdoctoral positions available. You will work on molecular mechanisms of growth factor activity. We require a Ph.D. in biochemistry, immunology or molecular biology with experience in cytokine signal transduction, gene regulation or experimental hematology.

In return for your expertise, Searle offers an excellent salary and benefits package. For consideration, please send a resume and a brief statement of research interests, with three reference letters, to: Dr. Judith G. Giri, Searle Inflammatory Diseases Research, 700 Chesterfield Pkwy., St. Louis, MO 63198. An Equal Opportunity Employer M/F/D/V.

SEARLE

Quality Biotech Inc. is a leading international biotechnology service company engaged in contract research and biosafety testing for the biopharmaceutical industry. As part of our continued expansion, we have the following openings in our Testing & Research Department.

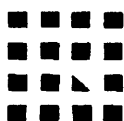
Assay Validation Manager

As Manager of our Assay Validation Group, you will oversee the design and implementation of validation protocols for biological and molecular assays. Responsibilities will include the statistical analysis of validation data, preparation of validation reports and interaction with our scientific staff. In addition, you will be involved in the management of technical staff, support of our technical sales effort and interaction with clients and regulatory authorities. A Ph.D. in Virology or Molecular Biology, a solid background in biostatistics, and 3 to 5 years of relevant experience are required. Applicants with advanced degrees in statistics and experience with biological systems will also be considered.

Senior Scientist Viral Validation

As a Senior Scientist in our Viral Validation Group, you will be involved with the design and implementation of customized protocols for validation of virus removal and inactivation by biopharmaceutical and blood product manufacturing processes. You will be responsible for the development of mammalian virus assays, the production of virus stocks, and will be involved with a wide variety of purification procedures including chromatography, filtration, and various virus inactivation methods. You should have experience in virology, cell culture, and standard protein purification methods. A Ph.D. in Virology, Microbiology, Cell Biology or Molecular Biology and postdoctoral training are required. Supervisory experience is a plus.

Quality Biotech Inc. is located in the Greater Philadelphia region - an area rich in scientific, cultural and recreational diversity. We offer excellent opportunities for professional growth, a competitive salary, relocation assistance, health benefits and a 401(k) plan. Send resume and salary requirements, to: Quality Biotech Inc., Human Resources - SAVS696, 1667 Davis St., Camden, NJ 08104. FAX (609) 342-8078. EOE



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Protein Chemist

Neo Rx Corporation, a Seattle-based, publicly held biotechnology company develops targeted biopharmaceuticals to treat cancer and cardiovascular disease.

We are currently seeking an innovative, experienced scientist to contribute to NeoRx's research and development projects by initiating, designing, and executing scientific research in the areas of protein isolation, purification, and characterization including scale-up and cGMP manufacturing.

The successful candidate must have a record of accomplishment in:

- Developing procedures for the isolation, refolding, and purification of proteins produced in various proteins expression systems including prokaryotic and eukaryotic cell lines, plants, insects, and transgenic animals.
- Biochemical characterization of purified proteins using state of the art analytical procedures.
- Scale-up, process development, and cGMP manufacturing of clinical grade materials.
- Production of proteins using bacteria, yeast, mammalian, and insect cell lines.

The successful candidate will have a Ph.D. in biochemistry with 2-4 years' related experience; or 8-10 years' industry experience with a BS or MS degree. Record of accomplishment with examples of projects completed, impact on company, and innovations incorporated. Relevant research and development experience with pharmaceutical company is most desirable.

Interested candidates are invited to forward their resume with a cover letter, in strict confidence, to: Denise Carlson, NeoRx Corporation, 410 West Harrison Street, Seattle, WA 98119. NeoRx is an equal opportunity employer.

NEORX

POSITIONS OPEN

ASSISTANT TO EDITOR GENETICS

This person oversees production of the journal *GENETICS*, ensuring that final copy conforms to standards and that the pre-established publication schedule is met. Strong editorial and communications skills, background in life sciences, and publications experience required. Send résumé and three letters of recommendation to: **Editor-designate Dr. Elizabeth W. Jones, Mellon Institute, Box 65, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213. FAX: 412-268-7129. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOWSHIPS Molecular Basis of Vascular Disease

POSTDOCTORAL FELLOWSHIPS are available for the study of the molecular basis of vascular disease at The John P. Roberts Research Institute in London, Ontario, Canada. Areas of research include: the role of growth factors and growth factor receptors in vascular smooth muscle proliferation, migration, and differentiation; smooth muscle cell-extracellular matrix interactions; endothelial cell proliferation and differentiation; the role of cytokines and chemokines in vascular inflammation; the role of tyrosine kinase signal transduction systems in vascular regulation; and the molecular mechanisms of hypertension. The Institute is located at The University of Western Ontario and houses over 40 internationally recognized scientists conducting leading research in areas ranging from vascular disease to transplantation biology. Annual salary will range from \$30,000 to \$43,000, depending on previous experience. Candidates possessing an M.D. or Ph.D. who are interested in joining this exciting program should send the names of three references and curriculum vitae to any of the following scientists: **Dr. David J. Kelvin, Dr. Ross Feldman, Dr. Geoffrey Pickering, or Dr. Murray Huff at: The John P. Roberts Research Institute, P.O. Box 5015, 100 Perth Drive, London, Ontario N6A 5K8 Canada. Email: kelvin@sdi.uwo.ca; FAX: 519-663-3789; URL: <http://www.rri.uwo.ca/opp/>.**

RESEARCH ASSOCIATES

University of California and Veterans Administration Medical Center (VAMC), San Francisco, has two positions available immediately for qualified individuals to join a group studying the role of vitamin D and retinoids on growth and differentiation of normal and transformed keratinocytes and breast cancer cells. Applicants should have a Ph.D. in the biological sciences and be experienced with cellular and molecular techniques applicable to studies of steroid hormone action. Specific experience with keratinocytes and breast cancer cells is desired but not required. Please send curriculum vitae and names of three references to: **Daniel Bikle, M.D., Ph.D., Department of Medicine, VAMC (111N), 4150 Clement Street, San Francisco, CA 94121.**

FELLOWSHIP—Research in integrative cardiac physiology/pharmacology in the experimental research laboratory, University of Louisville, to study the mechanisms of tissue injury during acute myocardial ischemia/reperfusion, emphasizing myocardial stunning, preconditioning, and hibernation. Also includes gene therapy and pre-clinical testing of new devices/therapies. Fellow will work under **Dr. Roberto Bolli**. Please submit curriculum vitae, letter of introduction, and three references to: **Roberto Bolli, M.D., University of Louisville, ACB Third Floor, 550 South Jackson Street, Louisville, KY 40292.**

POSTDOCTORAL POSITION: NIH-supported postdoctoral position available to study the intracellular trafficking of membrane proteins in epithelial cells. Applicants with a strong background in cell biology, molecular biology, or biochemistry are encouraged to apply. Please send curriculum vitae and the names of three references to: **James E. Casanova, Ph.D., Pediatric GI Unit, Massachusetts General Hospital East, 149 13th Street, Charlestown, MA 02129. FAX: 617-726-4172.**

POSTDOCTORAL POSITION available immediately to study cellular and molecular mechanisms by which the microtubule arrays of neuronal axons and dendrites are established. Previous experience in cytoskeleton or cellular neuroscience is required. Send curriculum vitae and three letters of reference to: **Dr. Peter W. Baas, Department of Anatomy, University of Wisconsin Medical School, 1300 University Avenue, Madison, WI 53706. Email: pwbaas@facstaff.wisc.edu.**

POSITIONS OPEN

DISTINGUISHED RESEARCHER IN RESIDENCE Mountain Research Center (MRC) Montana State University—Bozeman

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NEUROVIROLOGY

A position is available for a **POSTDOCTORAL FELLOW** (U.S. citizen, permanent resident, or non-U.S. citizen) who has a Ph.D./M.D. or equivalent degree with expertise in molecular biology, virology, molecular genetics, or neuropathology. Applicant will focus on interface between molecular virology and neuropathology. The position includes working in a small group focusing on JC virus and PML pathogenesis. The appointment will be for two years with a salary range between \$25,000 and \$38,000 per year. Please submit a curriculum vitae, statement of research interests, and three letters of reference by June 30, 1996 to: **Dr. Gerald Stoner, Laboratory of Experimental Neuropathology, NINDS, NIH, Building 36/Room 4A-29, Bethesda, MD 20892-4126. Telephone: 301-496-6144. NIH is an Equal Opportunity Employer.**

UNIVERSITY OF CALIFORNIA SAN FRANCISCO

Division of Nephrology and Biomedical Sciences Program

POSTDOCTORAL POSITION available immediately for individual with interest in mechanisms of transcriptional regulation by steroid receptors. Background in molecular cloning techniques essential. Our work focuses on identification of target genes and characterization of steroid receptor action *in vitro* and *in vivo*. Excellent environment, salary, and benefits. Send curriculum vitae to: **Dr. David Pearce, Box 1341, UCSF, San Francisco, CA 94143. Email: david_pearce@quickmail.ucsf.edu.**

RESEARCH ASSOCIATE/POSTDOCTORAL for molecular studies of regulation of cytokine, prostaglandin, and nitric oxide production in cell lines and primary cultures. Requires experience with quantitative mRNA analysis, RT-PCR, nuclease protection assays, nuclear run-on, and EMSA. Experience with neuronal cell culture and animal models of focal cerebral hypoxia-ischemia or with cultures of synovocytes and models of arthritis advantageous. NIH-supported salary of up to \$30,798 depending on qualifications. Send curriculum vitae plus names and telephone numbers of three references to: **Personnel, New York State Institute for Basic Research in Developmental Disabilities, 1050 Forest Hill Road, Staten Island, NY 10314. Reference number 308B.**

POSTDOCTORAL POSITION available to study the mechanism of transmembrane signaling between GPI-anchored glycoproteins and integrins in leukocytes and tumor cells. Previous experience with recombinant DNA technology, leukocyte biology, and signal transduction is highly desirable. Interested applicants (*who must be U.S. citizens or permanent residents*) should send a statement of research experience, a curriculum vitae, and the names of three references (plus addresses and telephone numbers) to: **Dr. Robert F. Todd, Division of Hematology/Oncology, 3119 Taubman Center, University of Michigan Hospital, Ann Arbor, MI 48109-0374.**

POSITIONS OPEN

POSTDOCTORAL POSITION TBP and TAF Structure-Function Studies

An NIH-funded **POSTDOCTORAL POSITION** is available to examine the role of the TATA-Box Binding Protein TBP and its associated factors (TAFs) in transcription initiation complex formation in *Saccharomyces cerevisiae* (see *J. Biol. Chem.*, **269**:23135; **269**:28335; *Proc. Nat. Acad. Sci. USA*, **92**:8224; *Biochemistry*, **34**:8005). We are currently using a combination of biochemical, genetic, and biophysical methods to study the interactions of these proteins with TBP, DNA, and other transcription factors. Interested parties should send a curriculum vitae and arrange to have three letters of reference sent directly to:

Dr. Tony Weil
Department of Molecular Physiology and Biophysics
Vanderbilt University
School of Medicine
Nashville, TN 37232-0615
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RESEARCH POSITIONS

The Immunohematology/Immunochimistry Research Program of the Blood Research Institute seeks qualified individuals (M.D., Ph.D., M.D./Ph.D.) with research interests in vascular biology plus experience/expertise in protein chemistry, molecular biology, or cell biology. Candidates for postdoctoral fellowship training or for staff appointment will be considered. Please send résumé and references to:

Peter J. Sims, M.D., Ph.D.
Associate Director, Research
The Blood Center of Southeastern Wisconsin
P.O. Box 2178
Milwaukee, WI 53201-2178

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POSTDOCTORAL POSITION DICTYOSTELIUM CYTOSKELETON

A variety of projects are available for a **POSTDOCTORAL** scientist interested in the cytoskeleton. Projects include mutagenesis of actin binding proteins, characterization of kinesin-like proteins, and genetic and biochemical approaches to interactions between cytoskeletal components. The candidate should be competent in recombinant DNA and protein purification methods. Familiarity with one or more of the following would be advantageous: Dictyostelium, yeast, biochemistry of actin or tubulin, fluorescence microscopy. Competitive salary for one to two years. More information available at URL: <http://www-bioc.rice.edu/~hostos/>. Applicants should send résumé by Email to: hostos@bioc.rice.edu. **Dr. E. L. de Hostos, Department of Biochemistry and Cell Biology, MS 140, Rice University, 6100 South Main Street, Houston, TX 77005-1892 U.S.A. Rice University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL ASSOCIATE

Fox Chase Cancer Center, an NCI-designated Comprehensive Cancer Center, is seeking a **POSTDOCTORAL ASSOCIATE** to study the importance of drug induced modulation of thiol metabolism (with emphasis on glutathione) on gene expression in model systems. Backgrounds in molecular biochemistry or pharmacology will be an asset. Interest in drug development an optional advantage. Interested candidates please send résumés to: **Dr. Kenneth Tew, Ph.D., Chairman, Pharmacology, The Fox Chase Cancer Center, c/o Human Resources, 7701 Burholme Avenue, Philadelphia, PA 19111. Telephone: 215-728-3137. Equal Opportunity Employer.**

ENHANCED POSTDOCTORAL POSITION

Opportunity for Ph.D. with proven experience in molecular biology and production of transgenic mice to join extremely well-funded group investigating the molecular basis of cardiopulmonary signal transduction using transgenesis. Position provides a dedicated full-time technician and an excellent transgenic/knockout facility that carries out injections, clips, animal care, etc. Excellent salary and benefits. Potential for advancement to faculty status. Send curriculum vitae and three letters of recommendation to: **Dr. Stephen B. Liggett, University of Cincinnati Medical Center, 231 Bethesda Avenue, Room 7511 MSB, Cincinnati, OH 45267-0564.**

POSITIONS OPEN

NEUROSCIENTIST FOR THE NUN STUDY

The Nun Study, a longitudinal study on aging and Alzheimer's disease, is recruiting a **POSTDOCTORAL** scholar with strong neurohistological and neuropathological skills, and training or experience in morphology and cellular and molecular biology of the central nervous system. The successful candidate will work with an epidemiologist (David A. Snowdon, Ph.D.) and a neuropathologist (William R. Markesbery, M.D.) in the analysis of autopsied normal and diseased brains and the preparation of manuscripts. Excellent communication skills, computer literacy, and an aptitude for quantitative approaches to the epidemiologic study of the neuropathology of dementia are required. Send application letter, curriculum vitae, and three representative publications, and arrange for three letters of reference to be sent to: David A. Snowdon, Ph.D., 303 Sanders-Brown Building, Lexington, KY 40536-0230. Web page: <http://www.coa.uky.edu/nunnet>. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS

POSTDOCTORAL POSITIONS available immediately for an NCI training program in molecular and cellular mechanisms of carcinogenesis at The University of Texas (U.T.) M.D. Anderson Cancer Center—Science Park. Research programs focus on the following areas: DNA repair and mutagenesis, carcinogen metabolism and adduct formation, tumor promotion, role of oncogenes and/or tumor suppressor genes in multistage carcinogenesis, normal and tumor cell differentiation, retrovirology, chemoprevention, and nutrition in cancer. Applicants must be U.S. citizens or permanent residents and must have a Ph.D., M.D., or D.V.M. degree. For application forms, contact: Dr. Thomas Slaga, Director, U.T. Science Park—Research Division, P.O. Box 389, Smithville, TX 78957. Telephone: 512-237-2403. We are an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

STANFORD UNIVERSITY SCHOOL OF MEDICINE: Postdoctoral fellowships focused on the cellular neurophysiology, development, and anatomy of neocortical and thalamic neurons and networks. Issues include reorganization of membrane properties, receptors, and circuits after injury; axonal sprouting; presynaptic modulatory mechanisms; pharmacology and physiology of GABA_A receptors; and mechanisms of epileptogenesis. Techniques include those of whole cell and cell-attached patch clamp recordings in "thin" slices and dissociated cells, intracellular labeling, analysis of channel and whole cell currents, immunocytochemistry, and cellular neuropharmacology. Eligibility: candidates should have an M.D., Ph.D., or equivalent degree, and predoctoral or postdoctoral experience in one of the above areas. Salary: NIH scale plus supplement. For further information contact: David A. Prince, M.D., Department of Neurology and Neurological Sciences, Room M016, Stanford University School of Medicine, Stanford, CA 94305-5300. Email: DAPrince@leland.stanford.edu; FAX: 415-723-1080. Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION—HIV biology: Available immediately for a recent Ph.D. in biological sciences. Current research projects include mechanistic analysis of CD4 downregulation (*Cell*, 76:853) and infectivity enhancement (*J. Virol.*, 69:5048) by the HIV-1 Nef protein. Experiments involve use of live viruses in a modern BL-3 laboratory. Familiarity with cell culture, molecular cloning, and biochemical techniques desirable. Send curriculum vitae and names of three references to: Dr. Christopher Aiken, Department of Microbiology and Immunology, Vanderbilt University School of Medicine, A-5301 MCN, Nashville, TN 37232-2363. FAX: 615-343-7392; Email: chris.aiken@mcmail.vanderbilt.edu. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available to carry out structure-function studies of TCRs and antibodies using molecular biological/biophysical (e.g. NMR) or cellular techniques. Prior experience in molecular biology and/or biophysics preferred. Please send curriculum vitae and names of three referees to: Dr. E. Sally Ward, Department of Microbiology, U.T. Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-8576, U.S.A. Email: sally@skylab.swmed.edu. Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION

Trudeau Institute, Inc.

A **POSTDOCTORAL POSITION** in Immunology is available to study somatic hypermutation of antibody genes using modern techniques in molecular, biochemical, and cellular biology. Candidates with training in immunology/molecular biology preferred.

The Trudeau Institute is a free-standing, not-for-profit, basic immunobiology research institute located in northern New York State, just eight miles from Lake Placid. The Institute offers an excellent research environment. Current interests of the NIH-funded staff include: generation and function of T cell subsets, innate and acquired immunity to infectious diseases, antigen processing and presentation, and regulation of somatic mutation in the antibody response.

A competitive salary and fringe benefits are offered. Applicants should submit a curriculum vitae and a brief description of research interests and experience, and should arrange to have three letters of recommendation sent to: Brian J. Rogerson, Ph.D., Trudeau Institute, Inc., P.O. Box 59, Saranac Lake, NY 12983.

The Department of Physiology and Biophysics, Mayo Foundation, is seeking an individual who is investigating the mechanism of cellular storage and release of secretory products. The successful candidate will have a strong background in biophysics and gel electrochemistry and expertise in applying strong electric fields to cells and cell organelles. Demonstrated experience in pulsed laser microscopy as related to imaging ions at biological interfaces is essential. Shown expertise in measuring oxidizable molecules with carbon fiber electrodes is necessary. Must be able to program in LABVIEW for Windows. Candidates must have a Ph.D. in biophysics or an equivalent degree, with a minimum of three years of postdoctoral experience in electrophysiology. Please send résumé to: Dr. Joseph Szurszewski, Chairman, Department of Physiology and Biophysics, Mayo Foundation, 200 First Street S.W., Rochester, MN 55905. Deadline: July 1, 1996. Mayo Foundation is an Affirmative Action/Equal Opportunity Employer and Employer.

POSTDOCTORAL POSITION

Department of Neurosurgery
Washington University

RESEARCH ASSOCIATE. Postdoctoral position available for recent Ph.D. in the Department of Neurosurgery at Washington University. NIH-funded laboratory investigates brain tumor motility and invasion in rodent models and *in vitro* using human brain tumor cell lines. A strong background in cellular biology (cell culture techniques, microscopy, fluorescence microscopy, etc.) is required. Send curriculum vitae and three reference letters to:

Daniel L. Silbergeld, M.D.
Department of Neurosurgery
660 South Euclid, Campus Box 8057
St. Louis, MO 63110

Telephone: 314-362-3457; FAX: 314-362-2107
Email: Silbergeld_d@kids.wustl.edu

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POSTDOCTORAL POSITION

Position available for recent Ph.D. graduate in the laboratory of Faye K. Ghishan, M.D., to investigate the molecular genetics of renal and intestinal transport proteins. Molecular biology experience is necessary. Send curriculum vitae and three references to: James F. Collins, Ph.D., AHSC, Department of Pediatrics, 1501 North Campbell Avenue, Tucson, AZ 85724. Email: jcollins@peds.arizona.edu. Review of applicants will begin July 15, 1996. The University of Arizona is an Equal Opportunity/Affirmative Action/ADA Employer. Women and minorities are encouraged to apply.

CYSTIC FIBROSIS RESEARCH

POSTDOCTORAL POSITIONS available to study sodium and chloride channel physiology and molecular biology in normal and Cystic Fibrosis-affected epithelial tissues. Emphasis is on electrophysiology, mammalian and *Xenopus* oocyte expression systems, and mutation analysis. Some experience in the electrophysiology of ion channels is preferred. Send curriculum vitae and the names of three references to: The Director of Cystic Fibrosis Research, Department of Physiology, Johns Hopkins University School of Medicine, 725 North Wolfe Street, Baltimore, MD 21205. Email: wguggin@wpo.bs.jhu.edu.

POSITIONS OPEN

POSTDOCTORAL FELLOW

American Museum of Natural History
Center for Biodiversity and Conservation

The **POSTDOCTORAL FELLOW** will be responsible for the design and implementation of a Metropolitan Fauna Project, which will include compiling available information; gathering additional data on the distribution, abundance, general ecology, and conservation status of the New York Metropolitan Fauna; and publishing results for multiple audiences. Candidates must possess a Ph.D. in systematics, conservation biology, or other biodiversity-related field; research experience focusing on some aspect of the New York fauna; experience with project management; knowledge and experience with funding sources and local and regional environmental NGOs; and excellent oral and written communication skills. Benefits included. Term position for one year. Please send a current curriculum vitae; a writing sample; salary requirements; and the names, telephone and fax numbers, and addresses of three references to: Director, Center for Biodiversity and Conservation, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024. Applications must be postmarked no later than July 5, 1996. No fax, please. An Equal Opportunity Employer.

POSTDOCTORAL POSITIONS CELL CYCLE REGULATION

POSTDOCTORAL POSITIONS are available in the laboratory of Stephen A. Osmani at the Weis Center for Research, Geisinger Clinic. Our studies aim to understand the role of two protein kinases involved in promoting mitosis, p34^{cdc2} and NIMA. Recent work in *Aspergillus nidulans* has demonstrated that both kinases are involved in checkpoint regulation over mitosis and have also implicated the function of BIME in this regulation (*EMBO J.*, 14, 986-994, and 995-1003, 1995; *EMBO J.*, in press). Geisinger offers a competitive salary and excellent benefit package. Interested candidates should send a curriculum vitae, copies of publications, and names of three references to: Geisinger Human Resources (SAO), 100 North Academy Avenue, Danville, PA 17222-1529. Equal Opportunity Employer. Minority/Female/Disabled/Veteran.

POSTDOCTORAL POSITION in Developmental Neurobiology available August 1996 to study activity-driven refinement of retinotectal projection in zebrafish, focussing on NMDA and mGlu Receptors, Ca⁺⁺ (fura-2), arachidonic acid and C/kinase in stabilizing retinal synapses, using cultures, videomicroscopy, immunostaining, patch recording and DiI staining in live larvae. Send curriculum vitae and three references to: Dr. John Schmidt, Biology Department, 1400 Washington Avenue, SUNY, Albany, NY 12222. Email: js213@cns.vax.albany.edu. Affirmative Action/Equal Opportunity Employer. Women, minorities, disabled persons, or Vietnam era veterans are encouraged to apply.

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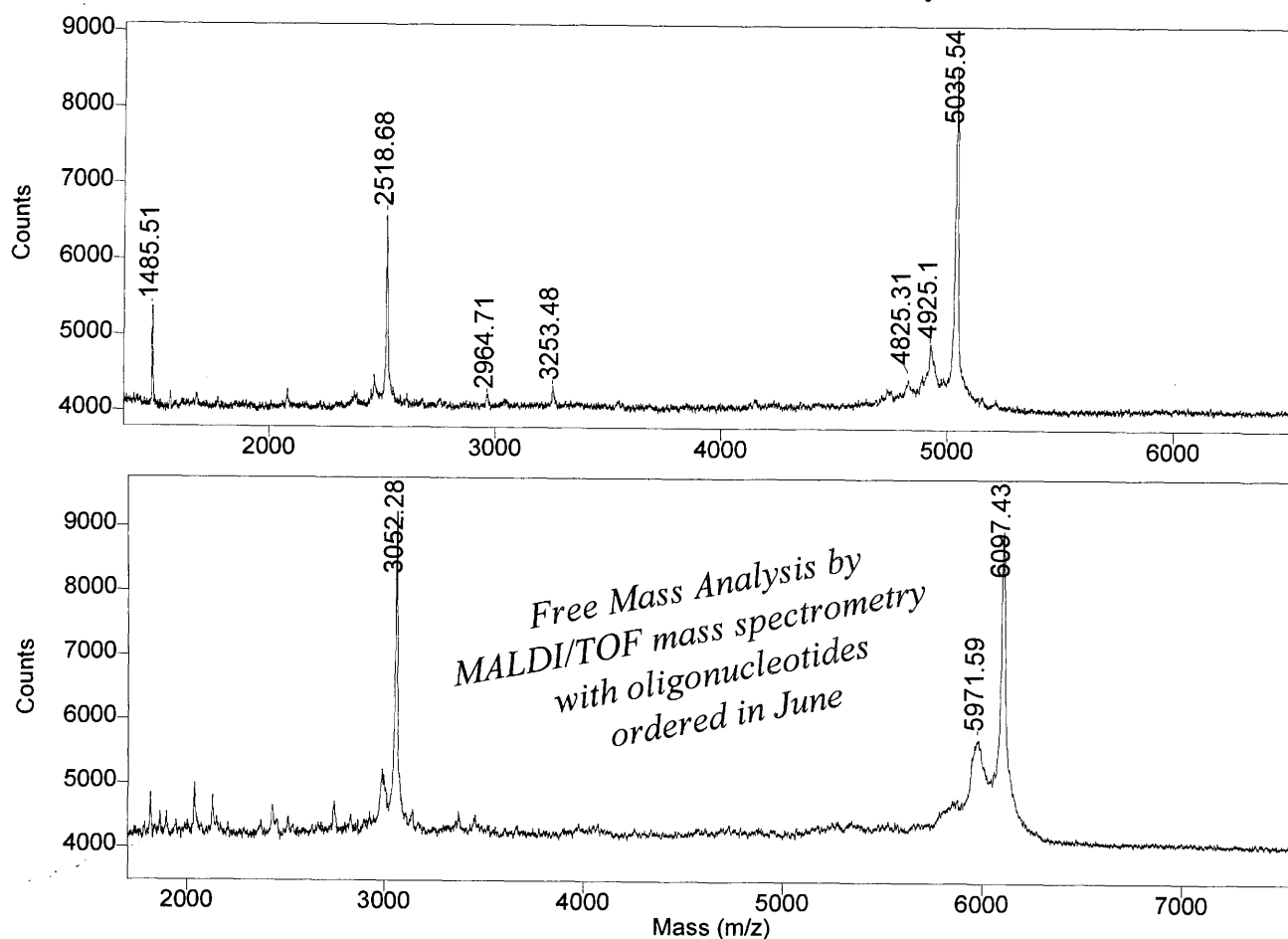
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M	K	F	O	L	P	B	N	H	U	I	L	2	Y	3	N	G	E	F	T	R	2
S	I	I	I	I	L	E	T	A	F	U	Q	7	L	I	F	H	J	A	R	O	S
5	N	C	E	V	A	T	F	F	G	E	V	I	T	A	T	I	G	C	O	S	E
Q	1	U	T	K	F	A	J	E	H	Q	P	A	C	O	C	L	C	T	P	I	I
H	X	L	I	J	G	N	R	K	D	1	T	I	D	Y	I	1	S	O	H	S	D
R	G	D	N	F	T	I	L	1	0	S	D	N	M	W	S	5	F	R	I	F	O
N	E	R	Y	T	H	R	O	P	O	I	E	T	I	N	A	P	3	T	N	A	B
A	4	Y	6	P	Z	W	H	C	C	A	Z	E	G	F	B	D	N	F	K	C	I
W	L	L	M	B	R	A	N	T	E	S	M	I	F	V	F	G	K	Q	Z	T	T
I	I	A	N	G	I	O	G	E	N	I	N	H	B	E	G	F	N	T	4	O	N
L	P	L	A	C	E	N	T	A	G	R	O	W	T	H	F	A	C	T	O	R	A
5	B	E	T	A	C	E	L	L	U	L	I	N	D	T	G	F	B	E	T	A	Z

There are 60 cytokines hidden in this puzzle

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