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"Nowadays, most researchers don’t come to see statisticians for basic science, because the statistical software has gotten to a level where it’s not very difficult for a bench chemist or researcher to run a standard analysis and get results."

A scientist should look for breadth in a statistical program in terms of range of procedures, tests and analyses," explains John Barnard, Assistant Professor in the Statistics Department at Harvard University. "A statistician would be interested in how easy it is to extend a program, to write new or novel, non-standard applications. If someone publishes a new statistical methodology in a journal, researchers may want to implement that methodology in their package, but if they can’t add functions to do that, they may be stuck."

Bench scientists should look for accuracy of results and interpretability of the output. "How is the output formatted?" Barnard would ask. "Does it give you useful graphs? Does it try to help you interpret the output? How easy is it to control the output — to write it to a file, to format it in a particular way, or perhaps to tell the software not to give you some aspects of the output?"

Other considerations would be: "How good are the graphics? What are the range of plots the program offers? How easy is it to add data to a plot? Are the plots labeled well? Can the software handle interactive graphics — can I look at a plot and select points and manipulate them?"

At the same time, bench scientists need data analysis programs that can be used with relative ease, adds Barnard. These programs should interface well with the kinds of data entry packages statisticians and scientists use, and they should offer the ability to produce high-quality presentation output.

In many cases, researchers will need to turn to expert statisticians to conduct sophisticated analyses of their data. However, today, an extensive array of statistical software tools exist to help researchers and scientists perform analyses of data. The increase in the speed of desktop computing has made a great deal of statistical methodology — for example, simulation-based methodology — readily accessible to most researchers.

Scientists can do such things as recreate an entire experiment many times over using simulation methods, both for design and analysis of the study. Instead of having one study of 100 patients, a researcher can randomly draw hundreds of different trials of 100 patients out of that sample, which can be used to gain insight on the distribution of the variables of interest. This allows one to look at things in many different ways very quickly. That was impossible or impractical when desktop computers were slow.

Standard statistical packages cover data acquisition all the way to data presentation, and all the points in between. Typically, after a scientist collects data in the lab from an experiment, the initial analysis involves getting the numbers in a form where they can be analyzed by one or several statistical tests or measures. That may mean doing basic data transformations, such as rotations, rankings, standardizations, or distribution fittings.

The next step often involves exploratory data analysis. This is where the researcher may make use of a variety of techniques, often data visualization or graphing techniques, to discover hidden relationships, such as patterns or clusters, in the data. The companies in this article were selected at random from a wide range of software developers. Inclusion in this article is not based on any rating system and does not imply that a company’s products or services are superior to other software developers.
data set. The researcher will determine which variables are most important in the analysis, what interaction effects may be present, and whether the data set meets the assumptions inherent in a particular statistical analysis. Once the scientist has a feel for what is there, he or she will usually want to apply deeper statistics to ascertain values for R-squared, correlation coefficients, and confidence intervals. Finally, the results must be packaged and put into a form appropriate for a presentation or publication in a scientific journal.

Often what a researcher will do in order to get a study published is write a simple program in a language like C or Fortran — something very rudimentary to analyze the one example they used in the paper they’re trying to get published. But as statistical packages get more sophisticated and robust — with many hundreds of procedures — the chances that an existing software package may be able to accommodate the methodology a researcher needs are getting better all the time.

Some of the companies producing statistical software packages for the scientific community include StatSoft, Abacus Concepts, SPSS, Jandel Scientific Software, Graph Pad, Stat-Ease, NCSS, and Domain Solutions.

**Statistica**, a data analysis and graphing system developed by StatSoft, offers a breadth of functionality, including comprehensive implementations of data exploratory techniques with brushing, multi-way tables with banners, nonparametrics, distribution fitting, multiple regression, general nonlinear estimation, stepwise-discriminant analysis, log-linear analysis, confirmatory and explanatory factor analysis, and many other statistical functions as well as an extensive array of graphing and drawing tools.

Dean Westervelt, a technician and marketing representative at StatSoft, explains that Statistica’s dynamic linking is an important feature that makes it easy for researchers to work interactively — to move seamlessly from data to graphical output and back again.

“When you’re running basic statistics,” explains Westervelt, “you plot some cases on two variables to get a scatter plot on the screen. Then, you may want to check out just a subset of those cases. With Statistica you can select a subset or delete anything from the analysis and have it automatically update in the scatter plot. All graphs are automatically updated when you change you the data.”

Rather than having to return to the data set and re-create the graph, the system “will ask you if you want to automatically update the graph right there,” adds Westervelt. “When I was in graduate school, you’d have to respecify everything and then rerun the entire analysis to get the modified graph. With Statistica, you can even use the resulting scroll sheet and save it as a data file.”

Statistica has traditionally been used by academic researchers, but recently StatSoft has begun focusing more on industrial applications of its software. It has added a statistical process control package called Statistica/QC (for quality control), which features quality control charts compatible with real-time data acquisition systems, process capability analysis, sampling plans, and a selection of experimental design methods.

**StatView**, which Abacus Concepts began in 1985, was the first statistical software package to be designed from the ground up with a graphical interface. Dan Feldman, a mathematician and co-founder, along with Jim Gagnon, of Abacus Concepts, explains that because the package was never command-line driven, “its distinguishing feature is ease of use — but we really mean it.”

The package is designed for researchers who need to do statistical analysis as a portion of their work but whose main goal is a presentation or getting published. StatView combines spreadsheets, comprehensive statistics, survival analysis, quality control, presentation graphing, data management, and powerful drawing tools.

StatView also features “dynamically linked” data. Changes to parameters are directly recalculated. “If you’re looking at the relationship between two variables, using a histogram and a regression,” explains Feldman, “if you want to go back and eliminate some outlying data — i.e., exclude a couple of patients from the study — the software will automatically recalculate your histogram and regression without having to restart the process.”

The ability to retrace your steps is crucial, he adds. “Imagine using a word processor that forces you to print everything out each time because once you quit your program, your document will be lost. That’s how old-time statistical analysis software used to work.”

With StatView, when you save a particular data analysis, all the statistics, graphs, and annotations associated with that
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analysis are also saved and can be reopened and modified at any time. Users can also save results as a template file for further analysis.

"Suppose you have a poster presentation," explains Feldman, "and you get that done a week beforehand because you want to have your charts, tables and everything set up right. Two days before the conference a new set of data comes in. At one time you would have had no choice but to present old data. If you knew you had a hot thing to present, you could talk about it, but you didn't have enough time to do your full presentation on it. But with StatView you can just update your data, and everything you did for your poster presentation — all your analysis and graphical output and enhancements — will be updated automatically, using the new data. Think of it as a 'style sheet' in a word processor."

**Joel York, Director of Marketing for Science Products at SPSS,** explains that the three major statistical packages SPSS offers — SPSS, SYSTAT, and SPSS Diamond — cover a wide range of applications, ranging from pure science to business marketing. The main program for the scientific community is SYSTAT, a package that integrates statistics, graphics, and data management. "With SYSTAT," explains York, "you can handle basic analyses such as ANOVA or regression within the general linear model, but you can also take it three steps further to very deep statistical stuff, such as working with covariates, hypothesis testing, Gauss-Newton exact derivatives, maximum likelihood methods, and robust estimators."

The package offers an extensive selection of analytic statistical graphics, adds York, with a high level of interactivity for doing exploratory data analysis. Users can rotate graphs in real time, interactively handle log and power transformations, change confidence intervals, and immediately see how the confidence bands change interactively on the regression line. Additionally, SYSTAT offers many different types of graphs that are specific to various applications, along with a variety of smoothing techniques.

"The graphics help you to explore your data and allow you to produce publication and presentation quality graphics in full color. If you're doing a slide presentation for a seminar, you can cut and paste directly into programs like Powerpoint," says York.

SPSS Diamond is a specialized graphics and visualization tool that helps researchers gain greater insight into complex data. "It takes the interactivity of exploratory data analysis to the next level," explains York. SPSS Diamond features sophisticated techniques for brushing graphs and highlighting data with color. For example, working with a parallel coordinate plot, a user can grab a node off the plot and "lasso" it with the mouse. The user can then highlight that node with a particular color that will flow through the rest of the plot, possibly revealing how variables are related. "Some of the best applications for Diamond involve time series or multi-variables that you expect to be correlated," explains York. "What you're looking for are underlying patterns or threads that tie your data together."

**SigmaStat and SigmaPlot, two statistical software packages from Jandel Scientific Software,** work well in tandem, explains John Foster, a product line manager at Jandel. SigmaStat advisory statistical software handles many statistical procedures, including analysis of variance, regression, nonparametric analyses, rates and proportion, and correlation analyses. SigmaPlot has an extensive range of graphing options in 2D and 3D, including grouped bar, polar, contour, and multiple 3D graphs.

Foster says that SigmaStat was designed to "provide researchers with a package that had a complete set of statistical tests and that would take care of the underlying principles of statistics." The program automatically handles missing data, checks the assumptions that underlie tests, handles 'messy' data, and recommends the appropriate test to run.

"It has an advisor — like a wizard — that takes the scientist through a series of questions to help select the best test for the data," adds Foster. "When it runs this test, it checks for violations — things like whether it should be parametric vs. nonparametric, or whether the distribution of data is correct. For example, if a researcher wanted to run a one-way repeated measures ANOVA comparing several replicates of a test and looking for a significant difference in subsequent trials, the program would automatically check that the data was normally distributed — one of the underlying assumptions."

At the end, the program generates an appropriate graph for the particular test that was run. And, finally, it produces an..."
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At this point, explains Foster, the user may want to run SigmaPlot to customize the graphs produced by SigmaStat. SigmaPlot handles non-linear curve-fitting, multiple 3D intersecting graphs and mathematical transforms. "The combination of the two gives you an easy-to-use and intuitive statistical software package with powerful graphics ability," Foster adds.

**In the early 1980s, Harvey Motulsky, M.D., the founder of GraphPad Software, Inc. was pursuing post-doc work as a pharmacologist researching receptor binding. "I have horrible handwriting, and I hate drawing things by hand," explained Motulsky. In receptor analysis the right way to analyze the data is by curve-fitting, not linear regression. "But curve-fitting was hard to get to then," Motulsky added. "So I wrote a program to make it easier and also to do plain old graphing." At the time, he recalled, there were only a few graphics programs around, mostly for business applications. But scientists need things like error bars, log axes, and Greek letters, as well as curve-fitting. So working with an advisory committee of practicing biomedical scientists from academia and industry, Motulsky developed a series of statistical programs. GraphPad’s newest package, GraphPad Prism, combines graphing, curve-fitting and statistics.

"Most scientists don’t know much about statistics,” explains Motulsky. "So Prism does a lot of teaching. When choosing an analysis, you can press a button and get information about the choices such as why you might want to do a paired vs. unpaired or parametric vs. nonparametric test. Once you get the answers, you can press an “interpret” button, and it will tell you what R-squared or a P value means and what assumptions are underlying the analysis. With Prism, a basic scientist can review basic statistics and analyze her own data, without having to defer to an expert.”

Motulsky stresses the importance of having data, analysis, and output "hot linked.” In a spreadsheet program such as Excel, if you put in a formula and then change a number, Excel recalculates the formula instantly. Similarly, in a scientific graphics program, when you do an analysis — say you do a transformation or a curve-fit or make a graph — if you then change the data, it is helpful if the graph, as well as the analysis that produced that graph, is updated immediately.

Researchers often repeat the same experiment under slightly different conditions. Say you first did a log transform, then normalized, then did a fit. With Prism, explains Motulsky, "you just go to your data table, cut out the old data, paste in the new data, click once, and you’re done. Every file becomes a template for repeated experiments, so you don’t have to write a macro or batch file."

Finally, after the scientist is finished with the experiment, he or she describes the results in a notebook, and sends it off for publication. Six months later the editor asks how something was calculated. "You bring up the original file," explains Motulsky, "and because all the steps are linked, you can retrace them. All the choices you made are recorded. Without that information, the graph would still be there. But you wouldn’t know where the curve came from and wouldn’t be able to change the analysis options and rerun the fit.”

Another feature, adds Motulsky, is Prism’s ability to handle many different sets of data simultaneously. "Scientists want to compare several treatment groups," he explains. "Rather than do the analysis first for group A, then B, then C, Prism lets you enter the data side-by-side and, in one set of commands, analyze all of it: control vs. the various treatments without having to repeat the procedure over and over. If you’re doing the kind of work where you’re comparing several treatment groups — as many scientists do — Prism makes data analysis much more efficient.”
a test plan where you systematically change each of the factors to different levels, perform the experiment according to plan, then using least-square regression techniques (ideally in randomized order to make it a good statistical test) fit various types of models, and pick the equation that works the best.

From that equation the software allows you to draw maps or contour plots that show what the predicted values will be and how they will behave as you vary the values from low to high. "The contour graphs can be manipulated using your mouse to pull contours around and to display what the predicted response will be, what the prediction interval is, and what the actual coordinates are for that point." Then you can make a 3D representation — which can be rotated — to visualize the surface, with predictions below that of the 2D contours. "You can click on any spot on the 2D contour map, and at that location you can display what the predicted response is," explains Anderson. "Design-Expert is used primarily by industrial researchers who are under a strong mandate to improve the quality and efficiencies of their products and processes."

"But we’re seeing more and more use in academic applications," he adds, "particularly where people are trying to get a better understanding and develop more of a profound knowledge of how various factors interact with each other to create the response they’re trying to measure."

Bob Krahnke, a research chemist in the sealants’ science and technology group at Dow Corning, uses Stat-Ease software to improve formulations of compounds. "We’re trying to improve the properties of our sealants and reduce the cost," he explains. The software helps Krahnke to "define the components in a formulation that are having the greatest effect on specific properties he’s interested in. "We’re able to compare the properties of the formulation and discover and optimize the relationship with cost and other factors."

**WHEN USERS OF NCSS STATISTICAL SOFTWARE PLACE A TECHNICAL SUPPORT CALL to the software company, the voice that comes on the line belongs to Jerry Hintze, the founder and full-time developer of NCSS. "Most people are astonished to be able to call up and get an answer from the person who wrote the program, someone who fully understands it and has a Ph.D in statistics," says Hintze. "I have a lot of customers who really appreciate the ability to call and get a direct answer, even if the answer is no."

Hintze, who began development on his program in 1981, has been adding new features and enhancements for the past 15 years. Most of that time, he has worked alone. He initially chose the name “Number Cruncher;” but it was taken, so he appended "Statistical System" to it. Hence, the acronym NCSS.

Today, NCSS software handles over 200 procedures and graphics, including analysis of variance, survival analysis, regression and correlation analysis, quality control, forecasting and time-series analysis. NCSS has even been translated and student versions of StatView and NCSS are available for Macintosh and Power Macs. NCSS has been translated and student versions of StatView and NCSS are available for Macintosh and Power Macs. NCSS has been translated and student versions of StatView and NCSS are available for Macintosh and Power Macs.
series analysis, multivariate analysis, curve-fitting, and plotting and graphing. The typical users of this software are academic researchers and bench chemists, as opposed to expert statisticians. "Typically, they have some numbers they want to analyze," explains Hintze. "They want to get the data in the system, tell it what to analyze, get their output, and move on. They're not going to fuss with a lot of specialty functions."

"The software is also being used in a lot of introductory statistics courses," he adds. "It works well in a setting where the professor wants to spend his time talking about the interpretation of data rather than calculation formulas."

Hintze says the major strength of his package is simplicity. "It's very straightforward," he explains. "You input your data in a straight Excel spreadsheet format, and your output comes in a word processor format — it's all tab delimited. The graphics are embedded within the text. You can import and export to about 30 different database and spreadsheet data formats."

Working alone, it's particularly important for Hintze to make sure his program and documentation manuals are easy to understand. With over ten thousand NCSS users, Hintze would have little time to get much programming done if the software needed to be heavily supported. "I try to design the documentation to minimize phone calls," he says. "If I notice that I'm getting a lot of phone calls on a certain task, then in the next edition of the manual I take extra effort to make it clear. Most people don't call until they're frustrated, so if I have to spend an hour with them, I spend an hour." Currently, Hintze is working on a new 32-bit version to take full advantage of Windows 95 and Windows NT platforms.

For researchers and engineers working in development and manufacturing, one company that offers a wide range of software tools for process optimization is Domain Solutions (formerly BBN Domain Solutions). Two packages, the RS/Series family and Cornerstone, provide integrated statistical and quality-analysis tools for manufacturing, engineering, and research applications. The software includes an array of tools for data management, modeling, statistics, curve-fitting, graphics, and report-generation. Cornerstone, a newer program that features exploratory data analysis capability is designed for a desktop environment; it integrates data access, analysis, and visualization.

"With the Cornerstone package, we wanted to start with a clean sheet of paper," explains Charlie Berger, senior product manager for Domain Solutions. "We assumed memory was cheap on the desktop. We assumed that the engineers wanted to take advantage of all the features of the analysis and that they're going to store their data in other databases." Beginning from there, Domain Solutions interviewed dozens of clients to develop a 'wish list' for the new program. The survey revealed that engineers and technical professionals involved in data analysis spent more than half their time accessing and organizing data. "They'd want to do an analysis," explained Berger, "and it would be, 'Where's the data, I've got to go find it.'"

"We created the Data Navigator to set up your data sources to point to data tables — be they in Oracle, Sybase, Excel, or wherever. We save the path to that data, and when you go to do your analysis, you go to a pick list and double-click on the data you want. It brings in an in-memory copy. Then you can do pre-processing or structured queries to format it further." Cornerstone modules give engineers analysis tools including regression, control charting, distribution fitting, and process capability. Cornerstone also provides graphs to view and analyze the data including box plots, contour plots, xyz scatterplots, bar graphs, and more. All views of the data are dynamically linked. Users can highlight data points in a graph and the data is automatically highlighted in all other views where it is referenced. "It makes your data analysis much less statistical feeling and much more visual and intuitive," explains Berger.

Not long ago, many statistical programs sat on mainframe computers where they remained the exclusive purview of statisticians. Now, researchers have access to a wide array of extremely complex statistical calculation and manipulation techniques. On any given day a scientist may need only 1% of the functionality of a statistical package, just as any given person may use only 1% of the features in a word processing program such as Microsoft Word or Word Perfect. But when a researcher needs a specific test — and some statistical tests are quite arcane — it saves a lot of time if it's already there in the program and he or she doesn't have to go out and write code from scratch.

In the near future, statistical software programs will probably have to become more integrated with databases. Database "mining" will become more important as scientific databanks continue to grow at unprecedented rates, particularly in areas such as molecular structure and protein and DNA sequence information. Institutions and pharmaceutical companies with extensive resources of molecular structural information will be investigating the activity of many compounds and drugs. Better statistical techniques and new methodologies will prove essential to this process. They will help manage the enormous amount of structural information available as well as help create a bridge capable of spanning the diverse worlds of the chemical and biological
researchers, who are concerned with drug efficacy and activity, and the researchers in development, who are concerned with clinical trials and patient histories.

Today, perhaps the most pronounced change that computing has brought to the field of statistics is widespread access to software that can handle innovative statistical methodologies as they're being developed. These new methodologies are able to handle data that cannot be correctly analyzed using current techniques. For example, statisticians are using heavily computational algorithms to improve the methodology for dealing with small data sets (exact tests). Another important area of research is the development of methods to handle such things as missing observations in a study.

Missing data are not common in laboratory studies, but in clinical trials it's common for people to miss scheduled visits to the clinic. There may be an appropriate methodology to handle this data as long as the statistician is sure that the people who are missing their clinic visit and their lab measures are doing it for reasons unrelated to the outcome of interest.

But, if somebody doesn't come to the clinic, it may very well be because he doesn't feel well, or perhaps because he feels so good he doesn't want to bother with his doctor visit. If researchers don't know that, they could have completely biased results. To simply act as if these participants were like everyone else can flaw the whole study. What is required is a statistical methodology that can appropriately handle a such a case.

Another development, adds John Barnard, will be toward statistical packages with greater interactivity. "There is a trend toward more user assistance—toward programs which can guide the user through an analysis," he explains. "The computer will try to play the role of statistician—because most researchers don't want to have to come to a statistician and wait for us to do a regression or basic analysis every time they need it done." The real goal of the software, ultimately, is to help researchers make sure that what they are concluding is valid and correct and will stand the test of time when other experiments of the same type are done.

—David Bornstein

DAVID BORNSTEIN IS A JOURNALIST WHO SPECIALIZES IN TECHNOLOGY, FINANCE, AND ECONOMIC DEVELOPMENT REPORTING.

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The University of Minnesota seeks a DIRECTOR for its recently established Biomedical Engineering Institute (BMEI). BMEI will provide research interests in the development degree program in Biomedical Engineering and is a cooperative enterprise coordinating the biomedical engineering activities of the Medical School and the Institute of Technology. Applicants should be, or in the process of becoming, college of mathematics, physical science, and engineering. The Director will report to the Deans of these two colleges and hold an endowed Bakken chair professorship and the potential to develop an externally funded research program.

In addition to the recurring operating budget, BMEI will be the recipient of the income from an ongoing, $12 million endowment and the growth in, BMEI will grow in staff, both via new faculty hiring and by the transfer of appointments of existing faculty into BMEI. The Director will be expected to develop the leadership of BMEI into an internationally recognized program of biomedical engineering research, education, and industrial interaction.

Interested candidates should send a resume by January 15, 1997, to: Prof. Wei-Shou Hu, Department of Chemical Engineering and Materials Science, University of Minnesota, 302 Washington Avenue SE, Minneapolis, MN 55455. Please contact Dr. Hu with questions or nominations, or visit the Biomedical Engineering Institute home page at http://www.med.umn.edu/bmei/ The University of Minnesota is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR

The Department of Physiology invites applications from outstanding scientists with Ph.D., M.D., or equivalent degree research interests in the following areas: 1) tenure-track assistant professor positions. Of particular interest are candidates who will develop independent research programs in cellular, molecular, or biophysical aspects of membrane biology or cell signaling. Integrative biology research utilizing cell and molecular biological approaches to investigate higher or physiological systems is also of interest. However, the excellence of the candidate is more important than the particular area of research. These positions are part of the continuing growth of this dynamic Department. Applicants should submit curriculum vitae and a brief statement of research plans and arrange to have three letters of reference sent to: James T. Stull, Ph.D., Department of Physiology, The University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75335-9040. University of Texas Southwestern is an Affirmative Action/Equal Opportunity Employer.

CELL BIOLOGIST

Biological Department, The College of Staten Island, City University of New York (CUNY), anticipates a tenure-track appointment as ASSISTANT PROFESSOR for September 1997. Ph.D., college instruction, curriculum development, and record sufficient for appointment to the Assistant Professor faculty rank. Applicants should present a curriculum vitae, research plan, names and addresses of three references to: Prof. J. LeBlanc, Search Committee Chair, Biology Department, College of Staten Island/CUNY, 2800 Victory Boulevard, Staten Island, NY 10314, Equal Employment Opportunity: Affirmative Action/ADA Employer.

ANATOMY POSITION

One TENURE-TRACK 12-month anatomy faculty position. Salary and rank will be based on qualifications. Initial contract is for two years and may begin July 1, 1997. Applicants must have a Ph.D. in anatomy and a strong commitment to teaching. The major teaching would be in gross anatomy. Western University of Health Sciences is committed to the education and professional development of a diverse and caring medical profession. Successful applicants for this position will be expected to contribute to the advancement of this mission by ensuring humane and caring service to people from all walks of life. Applicants should send a curriculum vitae and letters of recommendation to: Jimmie L. Hicks, Ph.D., Associate Dean, College of Osteopathic Medicine, Western University of Health Sciences, 309 East 2nd Street, Pomona, CA 91766-1889.

The University is an Equal Opportunity/Affirmative Action Employer and encourages women, minorities, and disabled persons to apply.

FACULTY POSITION IN HEMATOPOIESIS

The Department of Microbiology and Immunology and the School of Medicine at the University of Miami invite applications for a tenure-track faculty position at the ASSISTANT or ASSOCIATE PROFESSOR level in the area of hematopoietic stem cell research. The specific areas of investigation are at the level of either primitive stem cell populations or more restricted (B, T, NK) lineages. Special consideration will be given to those candidates who are also interested in oncogenesis and stem cell manipulation. The chief criteria for candidates are proven existence research capability and the potential to develop an externally funded research program.

All applicants who wish to be considered for the position at either level of appointment should have an established, funded research program. Interested applicants should send a current curriculum vitae, a statement of research accomplishments and future research plans, and names and addresses of three references to: Dr. Martin Fajnik, Chairman, Hematopoiesis Search Committee, Department of Microbiology and Immunology University of Miami School of Medicine P.O. Box 91570, Miami, FL 33199-1570 The University of Miami is an Equal Opportunity/ Affirmative Action Employer.

UNIVERSITY OF SAN DIEGO

Tenure-Track Assistant Professorship

Department of Chemistry invites applications for a tenure-track position at the ASSISTANT PROFESSOR level starting fall 1997. Candidates must have a Ph.D. in biochemistry or chemistry with a strong background in classical biochemical methods. He or she should be prepared to teach biochemistry laboratory and the undergraduate program in biochemistry, and study in basic areas of chemistry.

Applications are invited along with curriculum vitae, undergraduate and graduate transcripts, and statement of teaching and research goals should be sent to: Chemistry Search Committee, University of San Diego, Department of Chemistry, 5998 Alcala Park, San Diego, CA 92110-2492. Arrange to have three letters of recommendation sent to above address. Review of applications will begin immediately and continue until January 15, 1997. Affirmative Action/Equal Opportunity Employer.

CELL BIOLOGIST

DEPARTMENT OF BIOLOGY

The Biology Department of Hobart and William Smith Colleges (HWS) invites applications for two tenure-track ASSISTANT PROFESSOR positions. 1) Cell Biology—individuals with experience in eukaryotic cell biology are encouraged to apply. Responsibilities include teaching a course in cell biology, participating in the genetics course and an introductory biology course, and contributing to the Colleges’ general curriculum. 2) Developmental Biology—responsibilities include teaching a course in developmental biology and at least one of the following courses with a molecular perspective: physiology, microbiology, or behavior. In addition, the candidate will contribute to introductory biology courses and the Colleges’ general curriculum. All candidates are expected to contribute to excellence in teaching and implement research that is publishable. The Chairs encourage candidates to actively involve undergraduates. Competitive start-up funds are available. Candidates must have the Ph.D. degree by the starting date. Hobart College offers a beautiful suburban campus in Geneva, New York and William Smith College in neighboring Ithaca, New York. Competitive start-up funds are available. Candidates must have the Ph.D. degree by the starting date. Hobart College offers the unique opportunity to recruit and retain undergraduate students. Candidates should send a curriculum vitae, a statement of research interests and potential, electronic versions of all letters of reference, and three letters of reference to: Dr. James Ryan, Biology Department, Hobart and William Smith Colleges, Geneva, NY 14456-3397. To ensure full consideration, applications should be received by January 10, 1997. HWS is an Affirmative Action/ Equal Opportunity Employer and encourages women, minorities, and disabled persons to apply.
We are expanding our efforts in Bioinformatics and have several opportunities for positions in Seattle, Washington; Princeton, New Jersey; and Wallingford, Connecticut.

Our mission is to accelerate the discovery of pharmaceuticals and ultimately impact world health care through application of computational molecular biology in all therapeutic areas.

Ideal candidates will possess an M.S./B.S or Ph.D. degree in related field with expertise in:

- Sequence and Structure Similarity Searching
- Human and Microbial Genome Analysis
- Computer Science and Algorithm Development

If your experience is in alignment with our needs, please forward your resume, indicating preferred site to: Bristol-Myers Squibb Pharmaceutical Research Institute, Human Resources, Dept. BM-551, PO Box 11279, Trenton, NJ 08620-0279. Fax: (609) 581-8841. E-mail: http://www.bms.com.

Equal Opportunity Employer, M/F/D/V.
We're expanding our drug discovery efforts in the areas of Human Genetics, Clinical Measurements and Bioinformatics. This expansion has created the need for supervisory and technical level scientists. Qualified candidates will have a Ph.D. plus post-doctoral experience or an MS/BS and research experience in the following areas:

**CLINICAL MEASUREMENTS**

Principle mission is to develop and implement new biochemical assays relevant to humans. Looking for candidates experienced in techniques such as monoclonal antibody production, ELISAs, quantitative PCR, SSCP analysis and RFLP analysis. Job Code: 2043

**HUMAN GENETICS**

Principle mission is to develop genotyping assays, establish human genetics database and participate in the design of clinical studies involving genotyping protocols. Candidates should have experience in molecular biology techniques such as PCR, SSCP analysis and RFLP analysis. Job Code: 2044

**BIOINFORMATICS**

You will develop and apply computational sequence analysis methods for database searching, protein structure/function prediction and pattern discrimination from complex data. Experience in WWW development, molecular biology research and applied statistical analysis is highly desirable. Job Code: 2045

For immediate consideration, please forward resume suitable for electronic scanning (i.e. eliminate italics, bullets, bolds, underlines and staples) to:

Employee Resources, Job Code # __, Pfizer Inc, Central Research Division, Eastern Point Road, Groton, CT 06340.

We are an Equal Opportunity Employer M/F/D/V.

*CuraGen Corporation*

CuraGen Corporation is a dynamic and rapidly expanding company pioneering genomic approaches to develop pharmaceuticals by systematically identifying disease-related genes for which therapeutics can be successfully designed. CuraGen's interdisciplinary research team has expertise in molecular biology, biochemistry, statistical mechanics, computational methods, mathematics, nanofabrication, and spectroscopy. Close ties with major pharmaceutical, industrial, and academic laboratories complement our internal resources and facilities. We seek creative, motivated individuals with outstanding analytical and organizational skills and the dedication and ambition to succeed in an entrepreneurial environment. Industrial experience is advantageous.

**DIRECTOR of INSTRUMENT DEVELOPMENT**

Lead an energetic multidisciplinary team building the finest DNA analysis instruments available. Required: technical excellence and a record of strong achievement.

**BIOINFORMATICS**

Enhance and extend CuraGen's WWW-based integrated bioinformatics system (GeneScape) for large-scale genomics studies. Required: an advanced degree in a computational field and the desire and ability to learn.

CuraGen's compensation package includes medical coverage and opportunities for equity participation. Extensive collaborations with Yale University (12 minutes away), Yale Comprehensive Cancer Center, Cornell University, U.C. Berkeley, and the MIT/Whitehead Institute provide excellent opportunities for academic collaborations and publication. CuraGen is a winner of two coveted Advanced Technology Program awards from the National Institute of Standards and Technology, and also receives funding from the National Cancer Institute and the National Center for Human Genome Research. GeneScape is a trademark of CuraGen Corporation. Please send a CV to apply for any position. We are an EEO/AA employer.

*CuraGen Corporation* jobs@curagen.com www.curagen.com

Human Resources Department, 322 East Main Street, Branford, CT 06405. Fax: (203)481-1102

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**Base4 Bioinformatics**

We offer a competitive salary and excellent benefits package. Please forward your resume, in confidence, to the Human Resources Department, Base4 Bioinformatics Inc., 6850 Goreway Drive, Mississauga, ON L4V 1P1, Canada. Fax (905) 677-9595

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Base4 is a distributed bioinformatics company with a mission to identify the function and utility of novel genes. The Company uses networking and groupware methods to operate from multiple geographic locations, and works closely with commercial and academic partners.

**Chief Scientific Officer**

We are seeking a seasoned professional to become a key member of our senior management team. You will lead a growing team of biologists, biochemists, pharmacologists and information scientists working to achieve our mission. While you are completely comfortable with computers, the necessary computational resources are established and maintained by our technical group. Your flexibility, vision and team skills will mesh well with our entrepreneurial environment. You will be based in Toronto or Vancouver, but interact with all of our sites. Prior industrial experience, especially in a drug discovery environment, would be a definite asset.

**Other Biosinformatics Positions**

We are actively recruiting staff at a variety of levels. Details concerning these positions and the Company can be obtained at [http://www.BaseFour.com/](http://www.BaseFour.com/)

We offer a competitive salary and excellent benefits package. Please forward your resume, in confidence, to the Human Resources Department, Base4 Bioinformatics Inc., 6850 Goreway Drive, Mississauga, ON L4V 1P1, Canada. Fax (905) 677-9595
Since opening our doors back in 1980, Genetics Institute has discovered a prodigious number of novel regulatory proteins. To date, nine of these have advanced to human clinical evaluation or commercialization. Fueling the pipeline, are R&D programs addressing blood cell growth and differentiation, coagulation, tissue growth and repair and immune modulation, among others.

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

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

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

**BIOINFORMATICS - CAMBRIDGE**

Researchers at Genetics Institute are developing several technologies at the forefront of the genomic revolution. Our Signal Sequence Trap system is leading the rapid discovery of large numbers of novel genes encoding proteins that are secreted from cells. As this and other genome projects proceed, gene expression studies will become increasingly important for determining protein function and therapeutic potential. In collaboration with Affymetric, Inc., we are using GeneChip™ technology to assess the expression of a large number of genes in parallel. As a result of rapid developments in these information-intensive technologies, we have the following positions available in Bioinformatics.

Full-time permanent as well as 1 year temporary positions are now available.

**LAB INFORMATICS EXPERT**

Scientists at Genetics Institute are using GeneChip™ technology to generate large quantities of gene expression information in a high throughput, massively parallel manner. The outstanding challenge is to use this data effectively to better understand biological processes and to identify exciting therapeutic candidate factors and targets.

We are seeking a highly motivated individual with experience in high-volume relational data management and analysis to join the project. This individual would be responsible for maintaining the database and managing user-support issues, including the formulation and execution of basic queries to support biological research activities at GI. This person would also be responsible for development of additional analytical tools useful for applying gene expression data (alone and in combination with other information) to the solution of biological problems.

The ideal candidate will be able to take responsibility for user-oriented software development projects. Technical flexibility, persistence and initiative, and the ability to communicate effectively with biologists, programmers, and data management experts are all critical skills. Skills in the areas of systems administration, relational DBMS development, and Unix-like environment are a plus. **Job Code SC-53**

**ASSOCIATE SCIENTIST**

A position exists for a scientist to organize and analyze data generated by a high throughput cDNA cloning and sequencing project. An MS degree in a biological science plus two years' experience is required. Experience with sequence analysis software, sequence database, and Internet-based tools is essential. Good communication skills, organization, and attention to detail are also important. **Job Code SC-11**

**SCIENTIFIC SOFTWARE SPECIALIST**

A position exists for a software specialist to develop sequence analysis programs and to integrate commercial and public domain sequence analysis software into a unified environment for a high throughput cDNA sequencing project. This position requires a Master's degree in Computer Science and experience implementing software tools for analysis of molecular sequence data. **Job Code SC-49**

For consideration, please send or fax resume, suitable for scanning (see below), indicating job code, to: Human Resources Department, Genetics Institute, Inc., 87 CambridgePark Drive, Cambridge, MA 02140. Fax: (617) 876-8847. Scannable resumes should be forwarded on plain white bond paper using standard types and fonts, and no bold or italic print. When faxing a resume, please also mail an original copy.

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

The Technology Career of Tomorrow

Genomics is revolutionizing drug development, gene therapy, and our entire approach to health care and human medicine. Translating genomics discoveries into practical biomedical results through bioinformatics applications presents the challenge of the decade. Bioinformatics offers the career path of the future for the ambitious data professional.

Digital Gene Technologies, Inc., the La Jolla, California-based leader in total gene expression technology, seeks highly motivated and creative professionals to join the company's leading-edge bioinformatics group in developing and expanding the genomics database of tomorrow in a wide range of profitable and significant medical, industrial, and academic applications.

Vice President/Director of Bioinformatics

As the head of our bioinformatics team, you will be a key player in the organization at DGT, responsible for ensuring that the bioinformatics team functions as an integrative and cross-disciplinary unit with a strong understanding of the science of bioinformatics. The selected candidate will advise bioinformatics researchers, coordinate/prioritize the use of bioinformatics in the identification and validation of molecular targets for drug discovery, and function as a primary interface between DGT and its external corporate partners. Additionally, you will establish and maintain the service relationship with our molecular biology, automation technology, and cell biology departments, and ensure that the information and results are meeting the established needs of DGT and its partners. Requirements include a doctorate degree in the life sciences, preferably in molecular biology or genetics, and a minimum of 6-8 years of postdoctoral research experience in computer science, informatics, database management, and genomics technologies. Previous management experience (4-6 years) is also required, as well as multiple project and laboratory management skills.

Lead Database Developer

You will lead the planning and implementation of a database with a user interface designed to integrate in-house proprietary databases with public-domain genomics databases. This critical position requires an individual with a background in biology and computer science. Expertise with UNIX, Sybase, and/or Oracle databases is required. Graphic user interface development experience would be a plus.

Postdoctoral Fellows (Bioinformatics)

Requires a Ph.D. in molecular biology or a related field and experience programming in C language in a UNIX environment. As a member of the DGT team, you will develop specialized tools designed to mine data critical in the drug discovery process. Compensation will meet your qualifications and include equity participation in an exciting growth company. For consideration, please send or fax your resume/CV, letters of reference, and salary history to: DIGITAL GENE TECHNOLOGIES, INC., 11149 North Torrey Pines Road, Suite 110, La Jolla, California 92037, fax: (619) 552-8625, email: tom@dgt.com, EOE.

Postdoctoral Positions Available

Laboratory of Cellular and Molecular Biology
National Institute on Aging

Several postdoctoral positions are available immediately for individuals interested in joining an expanding research program devoted to the study of cellular and molecular responses to stress. Principal investigators and their general areas of interest include:

Nikki J. Holbrook - Mechanisms regulating gene activation during cellular stress in normal cells and aging model systems, and influence of induced gene products on cell growth and survival.

Yusen Liu - Stress-activated MAP kinase signaling cascades, with emphasis on the identification of novel mediators and cloning of new substrates for these kinases.

Ronald L. Wange - Molecular basis for differential signaling through the T cell antigen receptor in normal T cells, as compared to anergic, aged or oxidatively stressed T cells.

Applicants must have less than five years of postdoctoral experience. Submit a letter indicating area of interest, C.V., bibliography, and names of three references to:

Nikki J. Holbrook, Box 31, NIA, GRC
4940 Eastern Avenue, Baltimore, MD 21224
Fax (410) 558-8446
e-mail: nikki-holbrook@nih.gov

NIH is an Equal Opportunity Employer.

BIOS Laboratories, Inc., a growing biotech company focused on the development of new genomic technologies with applications in pharmaceutical qualification and prognostics of disease, is seeking candidates to fill postdoctoral and senior-level research positions at its New Haven, CT, facility.

Genome Expression and Variation. We are seeking innovative, highly motivated and team-oriented Ph.D. molecular biologists. The technology programs seek to develop integrated systems for profiling gene expression, for expression of large-insert genomic clones and for comparative genome variability studies. Prior experience in gene expression and regulation, or in discovery of DNA polymorphisms, is required.

Bioinformatics. We are seeking an M.S./Ph.D. candidate in computer science, specializing in pattern recognition and classification, with experience in the application of a wide range of methods. Experience in database design and implementation, and some familiarity with molecular biology or genomics, would be desirable.

Compensation packages are commensurate with qualifications. Interested candidates should send their curriculum vitae and the names and phone numbers of three references to: Laboratory Director, BIOS Laboratories, Inc., 5 Science Park, New Haven, CT 06511.

BIOS is an Equal Opportunity Employer.
BIOINFORMATICS OPPORTUNITIES

Genome Therapeutics Corp. is a proven leader in the field of genomics and a major contributor in the Human Genome Project. GTC is a fast-growing and financially successful biotechnology company - in the past year we have initiated a $22 million and $43 million alliance to develop genome-based drugs and vaccines. Challenging and rewarding opportunities exist for:

**Systems Administrator**
Administer and implement rapidly growing UNIX computing environment. Requires a minimum of 2 years' experience with NFS, NIS, TCP/IP, X-Windows and related utilities. Experience with Macintosh and network support is desirable. **Job Code: 197.**

**Senior Systems Software Specialist**
Design and implement coherent system management approach for a rapidly growing multi-platform network of UNIX servers and workstations. Requires facile knowledge of UNIX, TCP/IP, NFS, NIS, X-Windows, and related protocols. Specific experience with Digital UNIX or Solaris would be helpful, but demonstrated interest and ability in achieving reliable and scaleable systems configurations is essential. Experience in a scientific research setting a plus, as is some familiarity with VMS. **Job Code: 268.**

**Senior Database Designer**
Design corporate and scientific data repository for molecular biologists in pathogen genetics group. Lead the engineering design effort for support of data warehousing as well as supervise database development team. A PhD or MS with solid direct experience is required. Experience working in a scientific research environment is strongly preferred. **Job Code: 228.**

**Database Programmers and Administrators**
Develop database applications to support DNA sequencing and disease mapping projects. Requires experience in relational databases, UNIX, C++, and web interfaces. Experience with molecular biology, Macintosh, Sybase, or Perl is desirable. **Job Code: 262.**

**Software Engineers**
Provide flexible software support to research and production groups in molecular biology. Projects may have GUI, mathematical, or specialized data content. Must be able to work independently or as part of a team on small and large applications. Requires a BS in CS/EE or equivalent, at least 2 years' professional programming experience, solid knowledge of C, and some experience with UNIX. Experience with any of the following is desirable: C++, Perl, Java, GUI, databases, client/server, Macintosh, robotics, instrument interfaces, and molecular biology. **Job Code: 229.**

**Human Genome Analysts/Programmers**
Develop software tools for cDNA Sequence Analysis, Differential Gene Expression Studies, and Sequence Annotation projects. Requires experience in C/C++, Perl, web interfaces and programs to access sequence databases. Experience with molecular biology or genomics and broad knowledge of protein function is desirable. **Job Code: 264.**

**Statistical Geneticist**
Scientist with expertise in mapping genes for complex disorders to contribute to identification of genes for important human diseases. Requires experience in developing appropriate study designs for analysis of complex traits and experience with non-parametric methods, linkage analyses, and related analytical techniques. The ideal candidate will be actively involved in developing new strategies for mapping complex disorders. The individual will be expected to assume a leadership position in the human genetics group. PhD with at least 1 year's postdoctoral experience required. **Job Code: TK.**

**Linkage Analysis Programmer/Analyst**
Provide computational support for Human Linkage Analysis projects. Work closely with scientists to analyze data and develop tools for pedigree data management, error checking, and data exchange. Requires experience with data management, UNIX, C, and Perl. Experience with Linkage Analysis, Macintosh, Pascal, or Fortran is desirable. **Job Code: KF.**

**Senior Sequence Analyst**
Scientist with broad knowledge of microbial physiology and significant experience with computational sequence analysis methods to do sequence analysis. Work as the interface between computing and molecular biology in the search for useful gene targets for developing novel anti-microbials. PhD with at least 1 year of postdoctoral experience required. **Job Code: SS.**

GTC offers an excellent compensation and benefits package. Please send or fax your resume to: Human Resources, Genome Therapeutics Corporation, 100 Beaver Street, Waltham, MA 02154; fax (617) 893-9535. An Equal Opportunity Employer M/F/H/V.
Inventing Biotechnology was just the beginning...

Genentech is a pioneering biotechnology company that discovers, develops, manufactures and markets human pharmaceuticals for significant unmet medical needs. Our product pipeline is the richest in the industry and we are the leading biotech company with five marketed products. We currently have several openings for Scientists, including the following opportunities.

Scientist-Manufacturing Sciences
As a Scientist in Manufacturing Sciences, you will monitor and troubleshoot existing commercial, large scale purification processes. You will collaborate with other Scientists and Process Engineers on process improvements, plant improvements and implementing large scale processes in new facilities. Requirements include a PhD or equivalent in Biochemistry, Biocatalysis Chemistry or a related area. You will also provide the scientific expertise essential to the Quality and Regulatory groups for these processes. A conceptual understanding of chromatography and protein characterization is essential. Must have initiative, a sense of perspective, effective interpersonal skills and the ability to adapt quickly to change and short term projects. Job Code DSBB

Scientist-Endocrinology/Metabolism
We are seeking a scientist to join our Endocrinology/Metabolism group. The successful candidate will develop an independent research program investigating the molecular mechanisms that control food intake, fuel homeostasis and adipocyte differentiation and development. The research program is expected to lead to the development of drugs that will be useful for the treatment of obesity and type II diabetes. Requirements include a PhD and postdoctoral experience in Endocrinology or Metabolism or relevant areas of Biology. In addition, we require significant understanding and experience in molecular and cellular biology. Job Code JOTS

Join us and enjoy our exciting success and progressive benefit package that includes fully paid medical/dental/vision coverage, 3 weeks paid vacation, 6 weeks sabbatical after every 6 years, stock purchase opportunities for full time employees, and free health club membership. For consideration, send your resume, indicating Job Code, to Genentech, Inc., Human Resources, 460 Pk. San Bruno Blvd., South San Francisco, CA 94080. Please avoid bold, underline or italic type faces. You may also e-mail your resume indicating Job Code to jobs@gene.com (ASCII files only with a maximum line width of 78 characters). For more information, see us at http://www.gene.com. Genentech is an Equal Opportunity Employer. We value the contributions of our diverse workforce.

Genentech, Inc.

GENOVO, Inc.
GENOVO, Inc. is a newly established gene therapy company located in Philadelphia, PA that is pioneering the future of drug discovery by applying its innovative expertise in viral-based vectors. GENOVO has strategically teamed with a well-known biotech corporate partner committed to the future of genetic medicine.

GENOVO offers a career with high-growth potential and is currently seeking motivated and talented individuals with an interest in viral-based drug discovery and manufacturing to join its growing team of scientists.

Vice President, Development - will establish gene therapy viral vector manufacturing program. Primary responsibilities will be to direct manufacturing research and produce clinical grade viral vectors in pilot manufacturing facility. Candidates should have a strong background in virology/cell biology with proven experience in regulatory affairs, biologics development, and manufacturing. A Ph.D. with five to ten years of relevant biopharmaceutical and team management experience is required.

Research Scientists - will participate in the vector discovery and develop Ph.D. with programs. Ph.D. with three to five years of postdoctoral experience and a strong background in virology and molecular biology required. Experience with retrovirus, adenovirus, or AAV vectors helpful, but not necessary.

GENOVO’s R&D programs are expanding. We will also be considering applications for the following positions: Lab Manager, QA/QC Manager, and Research Associates/Technicians.

For confidential consideration for any of the above-mentioned positions, please mail your CV with cover letter to:
Dept. 9FMAG, GENOVO, Inc.
P.O. Box 42884
Philadelphia, PA 19101
GENOVO is an equal opportunity employer

ASSOCIATE DEAN FOR RESEARCH AND GRADUATE EDUCATION
The Ohio State University College of Dentistry is seeking a full-time faculty member to serve as Associate Dean for Research and Graduate Education. Position responsibilities include providing leadership and administrative oversight of intramural and extramural research programs within the College of Dentistry and promoting faculty research. This position also provides leadership to a Masters of Science Program available to students in eleven dental residency programs and a Ph.D. program in Oral Biology. The applicant should be an established scientist with a record of scholarly achievement and publication in dental, medical, or biomedical research, who has an active research program and history of sustained extramural funding as a principal investigator. Leadership qualities and organizational skills for development and implementation of research programs is essential. Previous experience with a variety of funding sources is preferred. Administrative experience is desirable. Individual would probably hold D.D.S., M.D., and/or Ph.D. degree(s) and be appointed at the associate professor or professor rank in tenure track.

It is the policy of The Ohio State University to limit access to communications and to letters of reference to those directly involved with the selection process. However, the status of this policy under the Ohio Open Records Act is unclear. Those seeking confidentiality should indicate that fact in all communications and the University will make every reasonable effort to honor that request within the limits of Ohio law.

Salary and rank are determined commensurate with the candidate's qualifications and experience. The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Qualified women, minorities, Vietnam-era veterans, disabled veterans, and individuals with disabilities are encouraged to apply. Review of applications will begin January 31, 1997, and continue until the position is filled. Inquiries, a current curriculum vitae, and the names of five references should be sent to: Dr. Joseph Travers, Search Committee Chair, The Ohio State University, College of Dentistry, 305 W. 12th Avenue, Columbus, OH 43210; Phone: 614/292-6365; Email: travers1@osumail.edu; Fax: 614/292-6087.
U.S. ENVIRONMENTAL PROTECTION AGENCY
National Exposure Research Laboratory

The U.S. Environmental Protection Agency (EPA) is seeking candidates for a variety of new multidisciplinary research and technical support positions in the National Exposure Research Laboratory (NERL). The NERL, with divisions located in the Research Triangle Park (RTP), North Carolina; Cincinnati, Ohio; Athens, Georgia; and Las Vegas, Nevada; conducts research to reduce and quantify the uncertainty in the Agency’s exposure assessments for all environmental stressors such as chemicals, microbes, radiation, and changes in climate, land and water use. The NERL characterizes the sources of environmental stressors and the compartments of the environment in which they reside or move; studies the pathways that lead to stressor exposure of receptors; investigates stressor transfers and transformations; and characterizes receptors and their activities as required to predict, diagnose or measure exposure.

We are seeking outstanding individuals to fill a variety of mid- to senior-level scientific positions within the Laboratory. NERL is recruiting for the following positions in these areas:

**Science Management**
The Division Directors will serve as the principal experts and authorities in their fields to direct national research programs. These individuals conduct or direct research as internationally recognized scientists as well as supervise and manage subordinate administrative staff and branch chiefs with line responsibility over a large group of scientists researching diverse topics.
- **Director, Air Exposure Research Division (AERD), RTP.** The AERD (30 employees) designs, conducts and interprets research in exposure and exposure assessment techniques to measure and model human and environmental exposure to contaminants in atmospheric and multi-media pathways and environments.
- **Director, Characterization Research Division (CRD), Las Vegas.** The CRD (90 employees) develops and applies approaches to identify and characterize exposure to humans and ecosystems to chemical pollutants, physical stresses, and other risk factors in the environment.

**Ecological Exposure Research**
This research area provides scientific understanding, information and assessment tools to assist the EPA in reducing and quantifying uncertainty in exposure and risk assessments for environmental stressors on ecological communities and the natural environment. More than one mid- to senior-level position may be filled.
- **Physical or Environmental Scientist.** Applicants should have at least a B.S. in the physical sciences and experience in spacial data analysis.
- **Environmental Scientist/Engineer or Ecologist.** Applicants should have an advanced degree in the physical sciences, environmental engineering, or ecology, and experience in the concepts, principles, and practices of predictive and landscaping/habitat ecological exposure modeling.
- **Mathematical Statistician.** Applicants should have an advanced degree in mathematical statistics and experience in the statistical analysis of biological data or applying statistical approaches to complex research problems.

**Human Exposure Research**
This research area provides scientific understanding, information and assessment tools to assist the EPA in reducing and quantifying the uncertainty in exposure and risk assessment for all environmental stressors on human health. More than one mid- to senior-level position may be filled.
- **Environmental Scientist or Chemical Engineer.** Applicants should have an advanced degree in the physical sciences or chemical engineering with experience in human exposure modeling or measurement.
- **Environmental/Chemical Engineer or Environmental Scientist.** Applicants should have an advanced degree in environmental/chemical engineering or the physical sciences with knowledge of the principles and practices of exposure and dose modeling.
- **Environmental/Physical Scientist.** Applicants should have an advanced degree in the physical sciences with experience in human exposure studies.

These research positions will be located at either RTP, Cincinnati, Athens, or Las Vegas. Research and management positions are permanent, full-time, with salaries commensurate with qualifications. U.S. citizenship is required.

If you are interested in learning more about these positions, contact us at the following address no later than January 13, 1997, for an application package:

U.S. Environmental Protection Agency
Attn: NERL RECRUITMENT
Human Resources Management Division (MD-29)
Research Triangle Park, NC 27711
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EPA IS AN EQUAL OPPORTUNITY EMPLOYER.
Dean and Director
Marine Sciences Research Center

The University at Stony Brook seeks nominations and applicants for the position of Dean and Director of the Marine Sciences Research Center (MSRC). The MSRC is the SUNY wide (State University Of New York) unit charged with research and education in the marine sciences, is presently one of the top ranked marine centers in the U.S. and has a very strong program in atmospheric sciences. The mission of MSRC is to increase the fundamental understanding of the oceans and atmosphere and their interaction and to apply this understanding to the resolution of societal problems related to the environment on local, regional, national, and international levels. Particular attention is given to problems of the coastal zone. MSRC currently has 37 tenure-track faculty having expertise in physical, chemical, geological, and biological oceanography, as well as atmospheric science, fisheries, and waste management. 139 graduate students are in residence working toward M.S. and Ph.D degrees in marine and atmospheric sciences. The Center administers an undergraduate major in the Atmospheric Sciences, a minor in Marine Sciences and is currently developing a multidisciplinary environmental studies major.

The successful applicant will have a Ph.D. in Marine or Atmospheric Sciences or a related field and a record of accomplishments commensurate with appointment at the rank of Professor. We seek an individual of national and international reputation, with administrative experience and with the demonstrated ability to organize groups of researchers in multidisciplinary research projects, to develop educational programs at the graduate and undergraduate levels, and to lead the Center's public outreach and fund-raising efforts.

Letters of nomination or application, including a statement of interest, curriculum vitae and a list of four references should be sent to: Chair, Dean and Director Search Committee, Marine Sciences Research Center, The University at Stony Brook, Stony Brook, New York, 11794-5000. Review of applications will begin January 15, 1997. For more information access our web site at http://www.msrc.sunysb.edu/

The University at Stony Brook is an Equal Opportunity/Affirmative Action Employer.

Stony Brook
STATE UNIVERSITY OF NEW YORK

Wayne State University
VICE PRESIDENT FOR RESEARCH AND DEAN OF THE GRADUATE SCHOOL

Wayne State University invites applications and nominations for the position of Vice President for Research and Dean of the Graduate School. Wayne State University is a comprehensive state-supported, non-profit research university with 14 schools and colleges offering approximately 350 undergraduate, graduate and professional degrees, including business, medicine, pharmacy, law, and engineering to more than 32,000 students. An urban university located in Detroit, Michigan, Wayne State is a Carnegie Research University, II Institution, and attracts the largest public graduate and professional school enrollment in the country, with over 14,000 students currently enrolled.

The University seeks an innovative and dynamic leader with demonstrated leadership and administrative skills, a strong research and teaching/training background, and the ability to attract human and financial resources to a comprehensive and diverse research program.

The Vice President for Research and Dean of the Graduate School reports to the Vice President for Academic Affairs, and is responsible for all administrative, fiscal and policy making activities in the Division of Research and the Graduate School. He/she will represent the University's research interests to federal and state governments and to private industry. The successful candidate will have:

- an accomplished record of research and scholarly achievement appropriate for appointment as a tenured professor;
- the ability to promote research, training and fund-raising activities within the public and private sectors;
- successful administrative and fiscal management experience;
- an understanding of and commitment to the University's multiple missions, including serving a diverse urban environment and facilitating interdisciplinary research; and
- demonstrated emphasis on academic excellence, and implementing and facilitating minority programs.

Screening of applications and nominations will begin on January 3, 1997, and continue until the position is filled. Candidates should submit a letter of application, curriculum vitae and complete contact information for four references. Information about Wayne State University and its programs can be accessed at www.wayne.edu. Applications and nominations, or requests for additional information (dwyer@log.wayne.edu), should be sent to:

Dr. Jeffrey W. Dwyer, Chair, Vice President for Research and Dean of the Graduate School Search Committee, Institute of Gerontology, Wayne State University, 87 East Ferry, Detroit, MI 48202

Wayne State University is an equal opportunity/affirmative action employer. Wayne State University - People working together to provide quality service. All buildings, structures and vehicles at WSU are smoke-free.
The Road to Discovery Runs Through Parke-Davis.

At Parke-Davis Pharmaceutical Research Division of Warner-Lambert Company, inspired science and a strategy of innovation has made us a leader in the pharmaceutical industry. The Department of Pathology and Experimental Toxicology and Neurological and Neurodegenerative Diseases currently has the following positions available at our headquarters in Ann Arbor, Michigan.

**CELLULAR AND MOLECULAR BIOCHEMIST**

The Clinical and Molecular Pathology section has an immediate opening for a Cellular and Molecular Biochemist. This individual will research, develop and validate assays to support Toxicology safety and investigative studies and Phase I clinical trials. Primary emphasis for this position will be the application of cellular biochemistry and molecular biology techniques to predict and characterize toxicologic mechanisms, and to identify surrogate markers of drug toxicity. The selected individual will maintain an active basic research program and act as a GLP study director.

A Ph.D. in Biochemistry, Molecular Biology, Toxicology or a related field and 3-10 years' relevant postdoctoral research training are required. Experience in developing multiple or combinatorial biochemical and molecular biology assays to address clinically relevant issues and demonstrated expertise in both in vivo and in vitro systems are required. A proven record of scientific publications is desirable. **JOB CODE: R96202**

**GENETIC TOXICOLOGIST**

The Molecular Toxicology section has an immediate opening for a Genetic Toxicologist. This individual will investigate the cellular mechanisms of genotoxicity and carcinogenicity as well as direct genetic toxicity safety studies.

A Ph.D. in Toxicology, Pharmacology, Biochemistry or a related field, 2-6 years of relevant postdoctoral training and experience in the assessment of chemical-DNA interactions and chemically-induced DNA damage and repair are required. Working knowledge of molecular biology techniques as applied to the assessment of genotoxic and carcinogenic mechanisms is also required. Candidates should have the demonstrated ability to work independently in the design, conduct and interpretation of experiments in a highly collaborative team environment. Excellent verbal and written communication skills and a publication record are a must. **JOB CODE: CJM96159**

**POSTDOCTORAL FELLOW**

The Molecular Toxicology section has an immediate opening for a Postdoctoral Fellow to investigate both genotoxic and cellular mechanisms of carcinogenicity. A Ph.D. in Toxicology, Molecular Biology or related discipline and up to 2 years of postdoctoral experience are required. Familiarity with cell culture, biochemical and molecular techniques as applied to assessing mechanisms or carcinogenicity and/or cellular injury is essential. **JOB CODE: CJM963025**

Invitrogen Corporation is a leader in the development of innovative products for gene expression and analysis. We currently have several Senior/Staff and Postdoctoral Scientist positions available in our research and development department. The senior/staff scientist positions require supervisory experience and a demonstrated history of productivity and creativity. Cutting-edge researchers and independent thinkers from industry or academia are encouraged to apply.

**SENIOR/STAFF SCIENTIST POSITIONS**

**Yeast Molecular Geneticist**

The qualified yeast molecular biologist will join a team developing novel and proprietary expression and display systems in *Pichia* and *Saccharomyces*. Candidates should possess a PhD and have extensive yeast molecular genetics experience with an emphasis on gene cloning, plasmid construction, meiotic recombination, and modification of plasmid and genomic sequences in yeast. Experience with fermentation formulation is highly desirable.

**Molecular Biologist-Macromolecular Interactions**

This position requires a motivated PhD level scientist with extensive experience developing assays for the analysis of protein-protein and protein-DNA/RNA interactions. The ideal candidate will be motivated, innovative, and technique oriented. Experience with multiple genetic systems is advantageous.

**Bacterial Molecular Geneticist**

We are seeking an innovative bacterial geneticist to assist ongoing efforts to simplify and optimize bacterial display and recombinant protein expression systems. Our research is also focused on developing assays for investigating molecular interactions in bacteria and bacteriophages. This PhD level position requires extensive experience with strain development and manipulation as well as in-depth knowledge of microbial biological systems.

**Postdoctoral Scientist Positions**

Three postdoctoral scientist positions are currently available for qualified individuals. Qualified candidates will be motivated and have a history of productivity and distinction. Prior experience in any of the above described areas is advantageous.

Interested candidates should fax or mail their resume to Invitrogen's Human Resources Department.

Invitrogen Corporation
3985 B Sorrento Valley Blvd.
San Diego, CA 92121

Tel: 1-619-597-6200
Fax: 1-619-597-6201
www.invitrogen.com
The National Nanofabrication Users Network (NNUN), a NSF funded consortium of nanofabrication user facilities at Cornell University, Howard University, The Pennsylvania State University, Stanford University, and the University of California at Santa Barbara, is making available starter grants to permit the use of network facilities for first-time biology users.

Current biology projects within NNUN span work in electrode arrays, microfluid handling, devices for cell growth and manipulation, sensors, and microanalytical instrumentation. Both basic work in biomaterial interfaces and applied device development can be supported.

The grants will typically defray the cost of several weeks intensive use of the facilities -- sufficient time to fabricate useful nano- and micro-scale devices.

For further information, please contact:

Dr. Lynn Rathbun  
Cornell Nanofabrication Facility  
Knight Laboratory  
Cornell University  
Ithaca NY 14853  
Email: Rathbun@cnf.cornell.edu  
(607) 255-2329 ext. 110  
FAX: (607) 255-8601

or visit the Network Web Site: http://snf.stanford.edu/NNUN/

The Pennsylvania State University's Life Sciences Consortium

The Pennsylvania State University has embarked on a substantial enhancement in the life sciences through its new intercollege Life Sciences Consortium (LSC), dedicated to building excellence and supporting interdisciplinarity. Faculty searches are presently underway in four of the LSC member colleges. These tenure-track positions will be co-funded by the college and the LSC. The subject areas, levels, and home colleges are listed below.

EBERLY COLLEGE OF SCIENCE

Yeast Cell Biology  
Assistant Professor

Neurochemistry  
Assistant Professor

Plant Developmental Biology  
Associate or Full Professor

SCHOOL OF MEDICINE, HERSEY MEDICAL COLLEGE

Human Genetics  
Associate Professor

Protein Structure/Function  
Assistant Professor

Oncogenes/Growth Factors  
Assistant Professor

COLLEGE OF AGRICULTURAL SCIENCES

Molecular Immunology  
Assistant Professor

Tree Molecular Biology/Genetics  
Associate Professor

COLLEGE OF HEALTH AND HUMAN DEVELOPMENT

Kinesiology/Locomotion  
Associate Professor

Nutritional Immunology  
Assistant Professor

Genetics of Complex Traits  
Associate Professor

A more complete description of each position and the home department, as well as the new LSC Integrative Biosciences Graduate Degree Program, can be found at the LSC website: http://www.lsc.psu.edu. Applicants should send their curriculum vitae, research program summaries, and the names of three professional references to: Ms. Judith Burns, The Life Sciences Consortium, 519 Wartik Laboratory, The Pennsylvania State University, University Park, PA 16802. The application materials will be conveyed to the chairs of the respective search committees.

Penn State is an Affirmative Action/Equal Opportunity Employer.  
Women and minorities are encouraged to apply.

Assistant Professor

Aquatic & Environmental Chemistry

Duke University's Nicholas School of the Environment invites applications for a tenure-track position, at the level of assistant professor, in aquatic and environmental chemistry. The successful applicant is expected to develop a nationally recognized, externally funded research program and contribute to the School's graduate-level teaching programs for research and professional students. Specific areas of expertise may include biogeochemical controls of chemical composition of natural waters; transformation or speciation of metals, organic chemicals, and/or nutrients; and mechanisms of pollutant transport and bioavailability. Send curriculum vitae, a one to two page summary of research and teaching plans, and three letters of reference by March 1, 1997 to: Aquatic and Environmental Chemistry Search Committee, Dr. Kenneth Rockhow, Chair, Nicholas School of the Environment, PO Box 90328, Duke University, Durham, NC 27708-0328, USA.

Duke University

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phone +81 3 3235-5961,  
or fax +81 3 3235-5852

In Australia,  
phone +61 02 922 2977,  
or fax +61 02 922 1100

SCIENCE

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

**Drug Discovery Research at Schering-Plough**

At the Schering-Plough Research Institute, insightful scientists are discovering innovative therapeutic agents that challenge humankind’s most debilitating diseases. If you are seeking an opportunity to be on the cutting edge of pharmaceutical discovery, become part of an advanced multidisciplinary research group focused on the study of chemokine biology.

**Postdoctoral Fellow Immunology**

A fully funded postdoctoral position is available immediately for a researcher with a strong background in molecular biology/molecular immunology to study chemokine biology using transgenic and knock-out approaches. Areas of concentration include: development of conditional genetic systems to study chemokines and their receptors, discovery of new chemokine genes, and development of new genetic models of inflammation.

To qualify, you need a PhD in Molecular Biology, Immunology or a related field and 1-2 years of postdoctoral experience.

We offer an excellent compensation package including a competitive salary and comprehensive benefits. For prompt, confidential consideration, we invite you to forward a resume with salary requirements to: Human Resources-BG, Dept. PDF/SSL, Schering-Plough Research Institute, 2015 Galloping Hill Road, Kenilworth, NJ 07033-0539. Or e-mail your resume to: spri@spcorp.com. We are an equal opportunity employer. We regret we are unable to respond to each resume. Only those selected for an interview will be contacted.

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**Postdoctoral Fellowships in Molecular and Cell Biology at the NIH**

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

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

- Biochemistry and molecular biology of homologous recombination in eukaryotes and prokaryotes, the structure and function of novel triplex DNAs, new methods for gene mapping and cloning (e.g., RARE) and gene targeting in mammalian cells, gene rearrangements in eukaryotes and novel approaches to gene therapy (including the use of small molecules that promote gene targeting, such as miniRecAs). (Dan Camerini-Otero)

- Identification of DNA rearrangements in malignant and premalignant conditions involving the gastrointestinal tract. Technical emphasis is placed on using novel RecA-assisted sequence-specific mapping and cloning reactions developed in this laboratory, as well as using automated sequencing and robotic equipment and the emerging data base from the Human Genome Project. (Lance Ferrin)

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

- Molecular basis of mechanisms involved in hormonal and developmental control of gene expression. The immediate focus is on the transacting factors of the steroid/thyroid hormone receptor gene superfamily. Present work involves homologous recombination to target genes of regulatory nuclear proteins. (Vera Nikodem)

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

- Current projects involve gene targeting to generate mouse models of human diseases, development of gene and protein-based therapies for treatment of neurodegenerative disorders, and the study of ganglioside function in the nervous system and during development. (Rick Proia)

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

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

**Genetics and Biochemistry Branch**
**National Institutes of Health**

Building 10, Room 9D-20, 10 Center Dr MSC 1810
BETHESDA, MD 20892-1810
Telephone: 301-496-2710
Graduate Fellowships

Center for the Study of Evolution and the Origin of Life

Origin of the Universe...
Formation of the Earth...
Beginnings of Life...
Evolution of the Biosphere...
Advent of Homo Sapiens...

CSEOL invites applications for five graduate fellowships for 1997-98. In addition to support provided to Fellows by UCLA departments, CSEOL will grant each Fellow a stipend of $5,000 per year, for each of the first two years of graduate study, with no teaching or other duties. Stipends may be used for any purpose the Fellow deems appropriate — travel, lodging, attendance at scientific meetings, purchase of books, computers, research equipment — for any purpose, without restriction. Fellows are included in a select group of graduate students invited to interact with Center faculty in a weekly dinner/seminar/discussion series. Applicants should be planning to carry out doctoral research under the direction of a CSEOL faculty member in a subject area relating to virtually any aspect of evolution — of the cosmos, of the solar system, of Earth, of the environment, of life, of humans. Areas of particular interest for 1997-98 include: (1) planetary evolution and exobiology; (2) origin and early evolution of life; and (3) biochemical evolution and molecular phylogeny. Faculty are members of the UCLA Departments of Anthropology, Astronomy, Atmospheric Sciences, Biology, Chemistry & Biochemistry, Computer Science, Earth & Space Sciences, Economics, Geography, History, Microbiology, Philosophy, Psychology, and Sociology; the School of Medicine; the School of Public Health; the Institute of Geophysics and Planetary Physics; and the Molecular Biology Institute. Fellowship applicants must apply (preferably, by 17 February 1997) both to an appropriate academic department and to CSEOL. For application forms and a list of CSEOL members, contact:

CSEOL Fellows Committee
Geology Building, Room 5687
University of California, Los Angeles
Los Angeles, CA 90095-1567
Telephone: (310) 825-1190
FAX: (310) 825-0997
e-mail: mantonya@ess.ucla.edu

DIRECTOR
Center for Imaging Science

Applications and nominations are sought for the position of Director of the Chester F. Carlson Center for Imaging Science at the Rochester Institute of Technology (RIT). The Center is an academic department that offers programs leading to the B.S., M.S., and Ph.D. degrees in imaging science and the M.S. degree in color science. The Center has active research over a wide range of applied research topics sponsored by both competitive federal grants and industry. As the Chief Academic and Administrative Officer of the Center, the Director reports to the Dean of Science and has responsibilities for student recruitment, development of major research funding initiatives, and the fostering of strong industrial interactions as already evidenced by the existing internationally recognized Industrial Associates program. The Center seeks to take a prominent role nationally in both research and teaching in the emerging field of imaging science and the Director will assume a major role in this growth.

The ideal appointee will be a nationally or internationally recognized authority and leader in the field of imaging science. This person will have demonstrated leadership skills in university environments; a record of achievement commensurate with a senior faculty appointment; an aptitude for fostering collaborations with industry, other universities, government agencies, and funding institutions; and the ability to work collegially with faculty in an academic setting.

Further information regarding the Center for Imaging Science and a full position description can be obtained at www.cis.rit.edu, or by writing to the Chair of the search committee at the mail address below or at director-search@cis.rit.edu. Review of candidates will begin after February 3, 1997. An application must contain a letter of interest; a curriculum vitae; and names, Email addresses, and postal addresses of five referees, who will be contacted at the appropriate time. RIT is an affirmative action, equal opportunity employer and strongly encourages applications from women and minority candidates. Applications must be submitted in hard copy form only to:

Chair, Director Search Committee
Chester F. Carlson Center for Imaging Science
College of Science
84 Lomb Memorial Drive
Rochester Institute of Technology
Rochester, NY 14623-5604

SEARCH RE-OPENED
VICE PRESIDENT FOR RESEARCH AND DEVELOPMENT

The University of Montana—Missoula invites applications and nominations for the position of Vice President for Research and Development. The Vice President will provide leadership and direction for all research programs at the University in Missoula and will coordinate research and creative activities at the University’s three other campuses. The Vice President reports directly to the President of the University; acts on the President’s behalf for research activities; and is responsible for research planning, program development, and development of new opportunities for research. The Vice President develops relationships with government agencies and the private sector, strengthens research infrastructure, and nurtures ideas and research initiatives. The University of Montana includes campuses in Missoula, Butte, Dillon, and Helena. The University of Montana—Missoula is a comprehensive, doctoral-granting institution committed to excellence in teaching, research, and service. The University maintains nine doctoral and 43 masters programs, having a combined graduate enrollment of over 1,700 students, and has rapidly growing research and creative activities. Candidates must have an earned doctorate and a strong record of research and other achievements, a clear understanding of the role of research and creative activities and their relationship to graduate education, demonstrated experience in research administration, the developed ability to communicate effectively, and the capacity to provide the leadership that is essential to the continued development of research and creative activity at the University. Salary will be commensurate with experience and qualifications. The position is available 1 July 1997. Nominations must be received no later than 1 January 1997 and applications, including a curriculum vitae and the names of five references, by 15 January 1997. Address all inquiries, applications, and nominations to:

President’s Office
Dr. Perry Brown, Chair
Vice Presidential Search Committee
The University of Montana
Missoula, MT 59812-1291
Telephone: (406) 243-5522; FAX: (406) 243-4845
Email: pbrown@forestry.umt.edu

The University of Montana is an equal opportunity employer.
### MOLECULAR BIOLOGY OF HUMAN CYTOCHROME P450'S

The Laboratory of Pharmacology and Chemistry, National Institute of Environmental Health Sciences, National Institutes of Health, has an immediate opening for postdoctoral fellowships in the area of molecular biology of the human cytochrome P450 enzymes. Position requires a Ph.D. in biochemistry, molecular genetics, or related field and no more than five years postdoctoral experience.

Current research is investigating human CYP drug-metabolizing enzymes, the mechanism of polymorphisms, and site-directed mutagenesis is being used to investigate structure-activity requirements for substrate specificity of the CYP2C enzymes using cDNA expression systems. Technical experience in molecular genetics including several of the following areas is needed: site-directed mutagenesis and construction of chimeras, use of cDNA expression systems such as bacteria, baculovirus, or yeast, cloning techniques, genomic analysis, library construction, DNA sequencing, SSCP. Experience with CYP enzymes, 3-dimensional modeling helpful.

Send curriculum vitae and three letters of reference as soon as possible to:

Dr. Joyce Goldstein, NIEHS Laboratory of Pharmacology and Chemistry PO Box 12233 (MD A-3-02) Research Triangle Park, NC 27709 Email: goldstein@niehs.nih.gov Fax: 919-541-3647 Tel: 919-541-4495

### BIOLOGIST/BIOCHEMIST

Laboratory Automation and Robotics

Merck Research Laboratories in Rahway, New Jersey, a world leader in biological and pharmaceutical research, has an immediate opening for a Biologist/Biochemist in the Department of Robotics and Automation.

The successful candidate will be responsible for all aspects of high-throughput biological assays to help identify novel drugs and drug leads. The responsibilities include assay development, assay configuration to high throughput forms, programming and application of robotics, and utilization of a sophisticated database system.

The position requires a BS or MS in the Biological Sciences and 1-2 years of biological research experience in a drug discovery environment. Your background should include some or all of the following: tissue culture, proliferation assays, enzymatic assays, and immunosassays. Previous computer programming experience is required (Visual Basic or Visual C++ is preferred) and you should feel comfortable with both Macintosh and Windows operating systems. You must have good analytical, interpersonal, and strong communication skills, and knowledge of good laboratory techniques. You should have the ability to operate specialized laboratory equipment; experience with Beckman, CRS, Hamilton, Packard, Sagian, Tecan, and/or Zymark robots would be beneficial. You should be strongly motivated and able to work independently as well as in a team environment.

Merck offers a competitive salary, an excellent benefits package, opportunities for professional growth and pleasant working conditions at our Rahway, NJ facility. If you fulfill the listed requirements, please send curriculum vitae with cover letter to Susan R. Jenkins, AD #15, Merck & Co., Inc., P.O. Box 2000, Rahway, NJ 07065. EEO/AA/VH/Employer.

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**COURSES & TRAINING**

**1997 State-of-the-art TRAINING OPPORTUNITIES**

**Marine Biological Laboratory**

Wood's Hole, Massachusetts

**Analytical and Quantitative Light Microscopy**, May 8-16, 1997: b-depth laboratory exercises, demonstrations, lectures, and discussions in the theory of the microscope and applications of video for exploring subtle interactions between light and the specimen. Intended for researchers in biology, medicine, and materials sciences.

**Applications Due:** March 11.


**Director:** Robert B. Silver, Marine Biological Laboratory.

**Applications Due:** March 11

**Optical Microscopy and Imaging in the Biomedical Sciences**, October 6-16, 1997: Comprehensive hands-on introduction to microscopy and video imaging for research scientists, physicians, postdocs, and advanced grad students, in animal, plant, medical and materials sciences, as well as non-biologists.

**Director:** Colin S. Izard, State University of New York, Albany.

**Applications Due:** August 5

Women and minorities are encouraged to apply. For application forms & information, contact: Carol Hamel, Admissions Coordinator, Marine Biological Laboratory, 7 Mill Street, Woods Hole, MA 02543-1015; Phone: (508) 289-7401; E-mail: <admissions@mbl.edu> or download forms & information from the Internet/Web: <http://www.mbl.edu>.
YALE UNIVERSITY SCHOOL OF MEDICINE

Yale University School of Medicine is seeking a dynamic individual to serve as Assistant Dean and Director. The position will report to the Dean. The successful candidate should have a Ph.D. degree or equivalent experience in the biological and biomedical sciences. The successful candidate will develop and implement programs to enhance the educational and research environment of the medical school. The position is open until filled. Salary is competitive and commensurate with experience.

Yale University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and members of minority groups.

INTERDISCIPLINARY SCIENCE/EDUCATION POSITION

Applications are invited for a tenure-track position at the ASSISTANT PROFESSOR level beginning September 1997. We seek an interdisciplinary scientist with research interests in innovative undergraduate science education at an ethically and culturally diverse campus. A Ph.D. in biological sciences, chemistry, geological sciences, or physics, or in an interdisciplinary science program, is required. Experience is required in basic research and in science education; postdoctoral experience preferred. The successful candidate will be expected to initiate interdisciplinary science courses, to develop programs and workshops to enhance the science education of pre-K-14 teachers, and to stimulate continued development of technology-assisted undergraduate science programs. Send curriculum vitae, statement of teaching and research, and names of three references to: Chair, Interdisciplinary Science/Education Search Committee, School of Science, Hayward, Hayward, CA 94542. Application review begins February 15, 1997. Internet: sciis@cityofhayward.edu California State University, Hayward is an Equal Opportunity Employer and does not discriminate on the basis of race, color, national origin, sex, sexual orientation, or disability.

PLANT SYSTEMATIST

The University of Wisconsin, Department of Botany, seeks a distinguished Plant Systematist to assume a tenured professorial position, preferably at the ASSOCIATE PROFESSOR level. Duties include teaching, research, and leadership of the Wisconsin State Herbarium. The Department and Herbarium seek candidates whose training and/or abilities will expand the University’s and Department’s breadth in biosystematics including, but not limited to: systematic, evolutionary, and animal-plant interactions, paleobotany, morphological evolution, or fern systematics. The successful candidate will be expected to contribute to the development of systematic biology on the campus, provide leadership in the Herbarium, and develop an active program of research and instruction. Applications should be sent to: Chair, Kenyon J. Sytsma, Chair of Search Committee, Botany Department, University of Wisconsin-Madison, Madison, WI 53706. Unofficial or confidential letters are not accepted. The University of Wisconsin-Madison is an Equal Opportunity/Affirmative Action Employer.

STANFORD UNIVERSITY

Department of Molecular Pharmacology

The Department of Molecular Pharmacology at Stanford University School of Medicine invites applications for a tenure-track position at the ASSISTANT PROFESSOR level. Candidates should have a Ph.D. degree or equivalent professional postdoctoral research experience. The appointee will interact with other faculty members who have research interests in signal transduction, gene expression, and translational processes. The appointee is expected to develop an independent research program that utilizes biochemistry, genetic, chemical, computational, and/or molecular and cell biological approaches to analyze problems of pharmacological interest. The appointee should be committed to teaching M.D. and Ph.D. students in a stimulating academic environment.

Candidates should send curriculum vitae, a description of future research plans, and the names and addresses of three references to: James P. Whitlock, Jr., M.D., Ph.D., Department of Molecular Pharmacology, Stanford University School of Medicine, Stanford, CA 94305-5332. Stanford University is committed to increasing representation of women and members on its faculty and particularly encourages applications from such candidates.

This position is open until filled. Salary is negotiable.

YALE UNIVERSITY SCHOOL OF MEDICINE

BBS Administrative Director

Yale University School of Medicine is seeking a dynamic individual to serve as Assistant Dean and Director. The position will report to the Dean. The successful candidate should have a Ph.D. degree or equivalent experience in the biological and biomedical sciences (BBS). The position will involve developing and implementing programs to enhance the educational and research environment of the BBS. The position will be responsible for student affairs and for the BBS’s programs. The candidate must be skilled in interacting and working with faculty. Salary is competitive and commensurate with experience.

Yale University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and members of minority groups.

HEAD DEPARTMENT OF VETERINARY SCIENCE

Penn State

The Pennsylvania State University seeks applications and nominations for the position of Head, Department of Veterinary Science in the College of Agricultural Sciences. The department head is responsible for directing the research, teaching, extension, and diagnostic programs of an academic department that consists of 18 tenure-track faculty members and 14 non-tenure-track personnel including Ph.D. and M.S. faculty, and 24 non-faculty members. The department head is responsible for directing the teaching, research, and diagnostic programs of the department and is expected to contribute to the development of technology-assisted undergraduate science programs. The department head is expected to be a role model for excellence in teaching, research, and extension.

Candidates should have a Ph.D. in a relevant discipline and be committed to excellence in teaching, research, and extension. The successful candidate will have a record of scholarly accomplishment and be a leader in the academic and professional communities. The candidate should have a demonstrated commitment to fostering and promoting diversity and inclusion in the department.

Applications should be sent to: Dr. L. M. Sordillo, Chairperson, Search Committee, The Pennsylvania State University, 115 Henning Building, Box A, University Park, PA 16802. Evaluation of applications will begin January 15, 1997, and will continue until the position is filled.

ASSISTANT PROFESSOR

Biochemistry/Molecular Biology

University of Minnesota, Duluth

The Department of Chemistry is seeking applications for a tenure-track position at the ASSISTANT PROFESSOR position in the area of biochemistry/molecular biology effective September 1, 1997. The successful candidate will 1) contribute effectively to the teaching responsibilities of the department including undergraduate and graduate teaching, and 2) contribute effectively to the research responsibilities of the department. The candidate is expected to be able to contribute to the teaching, research, and diagnostic programs of the department.

Applications should be sent to: Chair, Search Committee, The University of Minnesota, Duluth, MN 55812. The University of Minnesota is an Equal Opportunity/Affirmative Action Employer.

CITOLOGY/HISTOLOGY

Applications are invited for the TENURE-TRACK position in cell biology. The position is open January 15, 1997. Salary is negotiable. The successful candidate is expected to contribute to the university’s strengths in cell biology and related fields and to develop an active and internationally recognized research program. The successful candidate will be expected to develop a strong research program that includes collaborative opportunities with other laboratories. The successful candidate will have a Ph.D. degree in cell biology or a related field and should have a postdoctoral research experience.

Applications should be sent to: Assistant Professor Search Chair, Department of Biological Sciences, Sam Houston State University, Huntsville, TX 77341-2116. The University of Texas System is an Equal Opportunity/Affirmative Action Institution.
CDR Therapeutics

CDR Therapeutics is a new biotechnology company that is focused on developing small molecule analogs of proteins for therapeutic applications. The company is currently developing several peptidomimetics for the treatment of cancer and immunological diseases, and is seeking qualified individuals for the following position:

**Vice President, Research.** A proven leader with an outstanding track record in drug discovery and preclinical development is being sought to lead an integrated research team of creative scientists working to create new drugs that exploit novel receptor targets in immunology and oncology. This individual will set overall strategy and formulate programs to carry out the company’s research goals. Responsibilities include developing, implementing, and directing a chemistry program focused on the optimization of current peptide-based drug candidates as well as the design of future non-peptide compounds. In addition, this individual will also oversee biological research programs involved in the in vitro and in vivo testing of lead compounds. As a senior member of the company’s management team, the successful candidate will contribute to formulating the company’s overall corporate strategy. Qualified candidates will hold a Ph.D. in a chemistry-related discipline, have at least ten years of experience in the development of pharmaceutical drugs, and have a proven track record of developing and leading highly focused research groups. Direct responsibility for developing drugs that have reached advanced clinical testing is required.

Interested applicants are encouraged to send a CV to: Human Resources, CDR Therapeutics, Inc., 720 Broadway, Suite 612, Seattle, WA 98122.

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**Postdoctoral Research at The Wistar Institute**

The Wistar Institute, an independent research organization located on the campus of the University of Pennsylvania, currently seeks postdoctoral applicants.

**Postdoctoral Researcher 1 —** Studies of immunological mechanism of p53 based vaccines for cancer therapy. Reply to Dr. Hildegund Ertl.

**Postdoctoral Researcher 2 —** Conduct molecular virology studies of herpes simplex virus latency utilizing a mouse model system. We are also studying the use of HSV in gene therapy and cancer therapy. Reply to Dr. Nigel Fraser.

**Postdoctoral Researcher 3 —** Two positions are available: 1) Individual with strong background in molecular biology and some knowledge in immunology to characterize vaccinated cancer patients’ humoral immune responses using antibody phage display; 2) Individual with expertise in cellular immunology to characterize vaccinated cancer patients’ T-cell responses. Reply to Dr. Dorothee Herlyn.

**Postdoctoral Researcher 4 —** Conduct cellular immunology and virology studies on HIV-1 and cytokines. Research areas include AIDS immunopathogenesis, pre-clinical development of immunotherapy (viz., IL-12, IL-13) and macrophage infection. Reply to Dr. Luis J. Montaner.

**Postdoctoral Researcher 5 —** Projects include characterization of a novel co-repressor for the KRAB domain containing repressors which repress the neoplastic phenotype and characterization of BRCA-1 interacting proteins. Highly motivated individuals with molecular biology/biochemistry background are preferred. Reply to Dr. Frank J. Rauscher, III.

**Postdoctoral Researcher 6 —** Study T cell development in mice. The position requires a Ph.D. and experience in molecular and/or cellular biology. Reply to Dr. Lisa M. Spain.

**Postdoctoral Researcher 7 —** Studies of glycosyltransferases and carbohydrate based inhibitors of metastasis. Reply to Dr. Magdalena Thurin.

Interested applicants are requested to send a C.V. and three references to the appropriate faculty member's attention: The Wistar Institute, 3601 Spruce Street, Philadelphia, PA 19104.

Equal Opportunity Employer.

Minority candidates are strongly encouraged to apply.

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**EDUCATION/RESEARCH**

**FACULTY POSITIONS, AGRICULTURAL BIOTECHNOLOGY CENTER UNIVERSITY OF DELAWARE**

The Departments of Animal & Food Sciences and Plant and Soil Sciences in conjunction with the newly established Agricultural Biotechnology Center have openings for three 12 month, tenure-track/tenured faculty appointments, two in plant molecular biology, and one in genome science. These positions are approximately 80% research and 20% teaching/advising. Successful candidates will be expected to develop strong, contemporary, externally funded research programs. The Agricultural Biotechnology Center is an excellent academic research opportunity and individuals selected for these positions will have the opportunity to interface with a world-class effort in high throughput gene expression analysis undertaken as a major initiative of the new Center. Opportunities for joint appointments in other departments at the University of Delaware are available.

**PLANT MOLECULAR BIOLOGY**

Applications in all areas of plant molecular biology will be considered. Individuals with interests in development, transformation, gene expression, and plant-microbe interactions are encouraged to apply. For the FULL/ASSOCIATE PROFESSOR position, we seek an established investigator with a distinguished research record. The individual selected for this position will play a key role in the development of plant molecular biology programs at the University of Delaware. Review of applications will begin on January 31, 1997. For the ASSISTANT PROFESSOR position a Ph.D. in plant biology with post-doctoral or equivalent experience is required. Qualified applicants must have a comprehensive understanding of and demonstrated research creativity and productivity in plant molecular biology/genetics. Review of applications will begin March 31, 1997. To apply for either position, send letter of application, curriculum vitae, a list of three to five references, copies of key publications and a brief description of current research interests to: Dr. Jim Hawk, Search Committee Chair, Department of Plant and Soil Sciences, College of Agricultural Sciences, University of Delaware, Newark, DE 19711-1303.

**GENOME SCIENCE**

Applicants must have a Ph.D. in an appropriate discipline, post-doctoral experience, and a record of research productivity. We seek an ASSISTANT PROFESSOR capable of directing an innovative research program in the applications of genome science to understanding the molecular mechanisms of poultry disease and the evolution of pathogens. Review of applications will begin January 31, 1997. Send a letter of application, curriculum vitae, a list of three to five references, and a brief description of current research interests to: Dr. Robin W. Morgan, Search Committee, Department of Animal and Food Sciences, University of Delaware, Newark, DE 19717-1303.

The UNIVERSITY OF DELAWARE is an Equal Opportunity Employer which encourages applications from Minority Group Members and Women.
MOLECULAR EVOLUTIONARY BIOLOGIST

The Department of Biological Sciences invites applications for a tenure-track faculty position at the rank of ASSISTANT PROFESSOR, contingent upon final approval of funding. The successful candidate will be expected to establish and fund research programs using molecular genetics to study basic evolutionary problems, preferably at the population level, and to participate in graduate and undergraduate teaching in evolution and population genetics. The candidate will be able to interact with a large group of biologists working on exciting problems in ecology; animal behavior; molecular evolution; neurobiology; and molecular, cellular, and developmental biology. Potential core research facilities are available. Salary and set-up package will be competitive.

Start date preferably fall of 1997. Please submit materials before January 21, 1997; however, applications will be accepted until the position is filled.

Applicants should send a letter of intent, curriculum vitae, and statement of research plans, and arrange for at least three letters of reference to be sent to: Dr. Kenneth P. Able, Chairperson, Search Committee, Department of Biological Sciences, University at Albany, State University of New York at Albany, NY 12222.

The University of Albany, State University of New York, is an Equal Opportunity/Affirmative Action Employer. Applications from women, minorities, handicapped persons, and special disabled or Vietnamese-ethnic veterans are especially welcome.

FROSTBURG STATE UNIVERSITY
Assistant Professor

Frostburg State University (FSU) seeks full-time tenure-track ASSISTANT PROFESSORS in Plant Taxonomy and Evolutionary Ecology. Starting 1997-98, the FSU is seeking funding budget approval. Salary commensurate with experience. Assistant Professor Plant Taxonomy 97-836-SCI—Teach courses in general botany and the introductory plant classification sequence. Requires Ph.D. in plant systematics or related field, a strong knowledge of eastern North American flora, and demonstrated potential for excellence in teaching and research. Assistant Professor in Wildlife Ecology 97-836-SCI—Teach one course in wildlife research program; teach various courses in area. Requires a Ph.D. in wildlife biology or related field. College-level teaching preferred. Direct position inquiries to Dr. David Morton, Telephone: 301/445-4166; or send inquiries to Human Resources, Telephone: 301-687-4105 (Voice/TDD). Send letter of intent; curriculum vitae; copy of transcripts; and names, addresses, and telephone numbers of three references by January 31, 1997 to: Frostburg State University, Office of Human Resources, ATTN: (Specify Position and Number), Frostburg, MD 21532.

FSU is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply. Appropriate auxiliary aids and services for qualified individuals will be provided upon request. Please notify in advance.

ASSISTANT ORASSOCIATE PROFESSOR

The Ohio State University is seeking two or three FACULTY in the area of Molecular Structural Biology as part of the 1997-98 Biotechnology Life Sciences Initiative. Scientists with a strong background and research experience in the areas of macromolecular structure, intermolecular interactions, x-ray crystallography, NMR spectroscopy, and mass spectrometry will be given high priority. Department affiliation is negotiable for these tenure-track positions at the Assistant and Associate Professor rank. Salary: negotiable. Applications, including curriculum vitae and letters of reference, and a statement of research interests, should be sent to: Charles L. Brooks, Ph.D., 1925 Coffee Road, Columbus, OH 43210. Review of applications will begin on January 20, 1997. The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, Vietnam-ethnic veterans, and individuals with disabilities are encouraged to apply.

RESEARCH ASSISTANT PROFESSOR position in Atherosclerosis Research Unit (ARU) of the Depart- ment of Biomedical Sciences at the University of Alabama at Birmingham, Alabama, 35294-0012.

CURATOR/PLANT SYSTEMATIST
University of Oklahoma

Twelve-month joint TENURE-TRACK position starting August 1997 in Oklahoma Biological Survey and Department of Botany and Microbiology for Curator of Rebb Hebarium and Assistant/Associate Professor of Botany. Curatorial responsibilities include administration of the 30,000 specimen herbarium, oversight of collection development, and research. Departmental faculty responsibilities include teaching (one course per year), participation in graduate program, and development of research programs using plants to examine significant questions in systematic and evolutionary biology. Preference given to those using modern systematic techniques and having familiarity with E.P. Wurdack's Handbook of Oklahoma Wildflowers. Must demonstrate: research productivity in systematics; collection care and management skills; and teaching ability. Provide resume, written summary of how requirements are met, re-prints, and three letters of recommendation to: John J. Skarla, Search Committee Chair, Department of Botany and Microbiology, University of Oklahoma, Norman, OK 73019. FAX: 405-325-5028; TEL: 405-325-7619; Email: jskarla@ou.edu. Screening begins February 3, 1997, continuing until position filled. Equal Opportunity/Affirmative Action Employer. Women and minorities encouraged to apply. University has policy of being responsive to needs of dual-career couples.

BIOLOGICAL OCEANOGRAPHER
Department of Organismic and Evolutionary Biology
Harvard University

The Department seeks a biological oceanographer whose work addresses the ecology or physiology of plankton and who is interested in and committed to teaching at the undergraduate and graduate levels. The appointment will be to a TENURE-TRACK position with an initial appointment of Instructor. Applicants must have a Ph.D. and a curriculum vitae, a statement of research and teaching interests, and the names and addresses of three references to: Professor Robert M. Wooldrige, Department of Organismic and Evolutionary Biology, 26 Oxford Street, Cambridge, MA 02138. FAX: 617-495-0506

Harvard University is an Affirmative Action/Equal Opportunity Employer; we encourage applications from women and minority candidates.

EVOLUTIONARY BIOLOGIST

Chair, Molecular Evolution Search Committee

St. Mary's College of Maryland invites applications for a term appointment at the ASSISTANT PROFESSOR level, to begin August 1997. The appointment will be for two years with the possibility of renewal for two more years. We seek a person committed to teaching evolution using molecular tools and who is committed to teaching and research involving undergraduate students at a small pub- lic liberal arts college. Teaching responsibilities include teaching courses in genetics, evolution, ecology and natural selection, participation in the first-year introductory sequence for majors, and developing an advanced course in the individual's area of expertise. Applicants should have a Ph.D. before the starting date. Please submit a curriculum vitae (including Email address) and a state- ment of teaching philosophy and research interests, and arrange for the three letters of recommendation to be sent to: Chair, Molecular Evolution Search Committee, St. Mary's College of Maryland, St. Mary's City, MD 20686. Review of applications will begin on January 13, 1997 and continue until position is filled. St. Mary's College is an Equal Opportunity/Affirmative Action Employer.

ENVIRONMENTAL BIOLOGY

Saint Anselm College, a Catholic liberal arts college in the Benedictine tradition, has a new faculty position for a tenure-track assistant professor of biology. The successful candidate will be expected to have or plan to obtain a Ph.D. in a discipline in the biological sciences. Applicants must have an interest in teaching and research in freshwater systems and an ability to teach laboratory and general biology. Teaching load is three courses per year. A graduate assistantship position is available. Send letter of application, curriculum vitae, and three letters of recommendation to: Dr. Daniel J. Lavoie, Chairperson, Biology Department, Saint Anselm College, 100 Saint Anselm Drive, Manchester, NH 03102-1310. Unlike other sites, this one is clearly reading the text naturally.
ZymoGenetics, a Seattle-based biotechnology company located in the historic Lake Union Steam Plant, is looking for an Associate Director/Director — Immunology.

We are presently embarking on an intense bioinformatics search for novel protein therapeutics and have identified immunology as a key therapeutic area in which such proteins have a high likelihood of utility. To spearhead our effort in immunology, we are seeking an experienced research immunologist with proven scientific and managerial credentials. The position will report directly to the Vice President of Discovery Biology and will initially be at the Associate Director/Director level, depending upon the qualifications and experience of the candidate. Present staff consists of three experienced Ph.D. scientists plus four non-Ph.D. research assistants, and is growing.

As a subsidiary of Novo Nordisk A/S, the world’s largest producer of industrial enzymes, ZymoGenetics offers an exciting environment characteristic of a small research and development company, along with the scope and stability of a large pharmaceutical corporation. We also offer intellectual challenge, state-of-the-art facilities and a generous benefits package. Please apply by sending your resume or CV, noting reference # 15N796, to: ZymoGenetics, Inc., Human Resources, 1201 Eastlake Avenue East, Seattle, WA 98102. ZymoGenetics is committed to Equal Opportunity and Diversity.
EMBL

The European Molecular Biology Laboratory, an international research organisation with a Headquarters Laboratory in Heidelberg (Germany), Outstations situated in Grenoble (France), Hamburg (Germany) and Hinxton (UK) and a Research Programme at Monterotondo (Italy) has the following vacancy in Heidelberg:

GROUP LEADER

BIOLOGICAL HIGH-RESOLUTION ELECTRON MICROSCOPY

The European Molecular Biology Laboratory in Heidelberg, Germany, has a wide research programme in the areas of structural, cell and developmental biology, cell regulation, gene expression, cell biophysics and biochemical instrumentation. The Structural Biology (incl. Biocomputing) Programme maintains a multidisciplinary approach to study the structural basis of biological problems. The research groups within the Programme are currently using biocomputing methods, X-ray crystallography, NMR spectroscopy and high-resolution electron microscopy, supported by broad expertise in biochemistry and molecular biology, to study membrane, cytoskeletal and signalling proteins, viruses and macromolecular assemblages, protein/nucleic acid interactions, and protein folding.

The EM facility is equipped with six transmission electron microscopes (including a Phillips CM200 FEG), facilities for cryo-electron microscopy, a scanning transmission electron microscope, and scanning microdensitometers. The new group leader is expected to pursue a strong research programme in biological cryo-electron microscopy. Suitable areas include high-resolution structural analysis of membrane proteins, structure and function of cytoskeletal proteins, and analysis of single particles.

Candidates should have a PhD and relevant post-doctoral training, with significant research accomplishments, and should demonstrate the ability to establish and run an independent research group.

The contract will be for five years in the first-instance. This can be renewed depending on the circumstances at the time of review.

Closing date: 28 February 1997

Further information can be obtained from: Matti Saraste, tel: +49 6221 387365 Fax: +49 6221 387306, e-mail: saraste@embl-heidelberg.de

EMBL is an inclusive, equal opportunity organisation.

Applicants should submit a curriculum vitae, including a description of current and planned research activities and arrange for three letters of recommendation to be sent, quoting ref. no. 96/67, to:

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

(Fax: +49 6221 387555 email: jobs@embl-heidelberg.de)
SENIOR MEDICAL MICROBIOLOGIST

The Department of Antibiotic Discovery and Development at Merck Research Laboratories has a challenging opportunity for a microbiologist committed to the identification and development of new antibacterial agents for the treatment of serious infections in man. The successful candidate should have a PhD or MD and postdoctoral experience in microbiology. An interest in mechanisms of antimicrobial resistance of potential clinical importance, as well as in essential microbial mechanisms suitable for chemotherapeutic manipulation would be helpful, as would experience in models of infection. Evidence of independent scientific accomplishment and supervisory experience are advantageous.

Merck offers a competitive salary, an excellent benefits package, opportunities for professional growth and pleasant working conditions at our Rahway, NJ facility. If you fulfill the listed requirements, please send curriculum vitae with cover letter to Merck Research Laboratories, Human Resources, AD #16, P.O. Box 2000, RY80-A3, Rahway, NJ 07065. EEO/AA/VH/Employer.

MERCK Research Laboratories

SKIN BIOLOGIST

The National Institute for Occupational Safety and Health (NIOSH) has established a new state-of-the-art research facility and research division in Morgantown, West Virginia, to conduct multifaceted laboratory-based research into the diagnosis, mechanisms, and prevention of adverse health effects due to workplace exposure to hazardous substances or agents.

The Toxicology and Molecular Biology Branch currently has an opening for a Team Leader with responsibility to recruit and supervise staff, and to develop a research program in skin biology.

Preference will be given to studies of molecular and cellular events responsible for irritant contact dermatitis (e.g., adhesion molecules, skin/nervous system interactions, dermal metabolism) associated with agents with potential occupational exposure.

Interested applicants should forward a résumé with cover letter to: NIOSH, Toxicology and Molecular Biology Branch, 1095 Willowdale Road, Mailstop 3014, Morgantown, WV 26505.

NIOSH is an Equal Opportunity Employer.

GLOBAL CAREER OPPORTUNITIES

EMBL

The European Molecular Biology Laboratory, an international research organisation with a Headquarters Laboratory in Heidelberg (Germany), Outstations situated in Grenoble (France), Hamburg (Germany) and Hinxton (UK) and a Research Programme at Monterotondo (Italy), has the following vacancy in Heidelberg:

GROUP LEADER

DEVELOPMENTAL BIOLOGY PROGRAMME

The person appointed will head an independent research group within the newly established Developmental Biology Programme at EMBL.

The Programme's research interests will focus on pattern formation and morphogenesis in vertebrate and invertebrate systems. The Programme presently consists of three groups studying aspects of pattern formation involving cell communication, signal transduction and cell polarity in Drosophila (Cohen, Ephrussi, Mlodzik). For this appointment we are particularly interested in candidates who work on vertebrate development using molecular genetic, biochemical and/or cell biological methods, though applications will be considered from highly-qualified candidates working in any area of Developmental Biology.

The Programme benefits from close interactions with research groups in the other Programmes at EMBL, including Cell Biology, Gene Expression, Cell Regulation, and Structural Biology (including Biocomputing) Programmes. We will be housed in new lab space adjacent to the Cell Regulation Programme. We expect the new labs to be ready for occupancy in Spring 1997, and the new appointment to begin in September 1997. Two additional group leader appointments will follow in 1998.

The contract will be for five years in the first instance. This can be renewed depending on the circumstances at the time of review.

Closing date: 31 January 1997.

Further information can be obtained from Stephen Cohen
Fax +49 6221 387 516, email: scohen@embl-heidelberg.de;

EMBL is an inclusive, equal opportunity organisation.

Applicants should submit a curriculum vitae, including a description of current and planned research activities and arrange for three letters of recommendation to be sent, quoting ref. no. 96/68, to:

Head of Human Resources, EMBL, Postfach 10.2209, D-69012 Heidelberg, Germany.
(Fax: +49 6221 387555 email: jobs@embl-heidelberg.de)
PLANT BIOLOGIST
The University of Southern Indiana invites applications from plant biologists for a TENURE-TRACK position of Assistant Professor of Biology beginning August 1997 to teach introductory and advanced courses in the candidate’s areas of expertise and assist with student advising, service activities, and research involving students. Ph.D. in related area; expertise in one or more of the following areas: environmental physiology, plant genetics, or entrepreneurial undergraduate teaching and research experience required. The University is committed to excellence in teaching, scholarship and professional activity, and service to the University and the community. Application deadline is February 1, 1997, but will be accepted until position is filled. Submit letter of application including statements of teaching philosophy, research goals, curriculum vitae, and names, addresses, and telephone numbers of three professional references to: Dr. William J. Almquist, Chair, Department of Biology, University of Southern Indiana, 8000 University Boulevard, Evansville, IN 47712. Affirmative Action/Equal Opportunity Employer.

PHARMACOLOGY FACULTY POSITION
The Division of Pharmacology, University of Missouri-Kansas City (UMKC) School of Pharmacy, invites applications for a tenure-track position at the ASSISTANT or ASSOCIATE PROFESSOR level. Candidates should have a Ph.D. degree in pharmacology or toxicology, and at least two years of postdoctoral experience. The successful candidate should demonstrate the ability to establish or continue an independent research program. Preference will be given to applicants having both postdoctoral and graduate student experience. Applications should be received by January 10, 1997, although the search will continue until the position is filled. The position is available beginning January 1, 1997, with salary and start date to be commensurate with prior experience. Send applications along with a curriculum vitae, a statement of research and teaching objectives, and the names and addresses of three references to: Dr. Yen-Sun Lu, Chair, Division of Pharmacology, UMKC School of Pharmacy, 2411 Holmes, Kansas City, MO 64108. Telephone: 816-235-1798. UMKC is an Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIPS
The University of Cincinnati College of Medicine offers postdoctoral fellowships in virology, immunology, environmental, molecular, and cellular carcinogenesis and mutagenesis supported by the NIHES. Experimental approaches include the role of growth factors and oncoproteins in cellular transformation and cell cultures; transgenic and knockout mice, and ecotoxicology. Candidates with molecular methods of mutagenesis; Dr. Thomas Drosophila (geneticists) and Dr. Michael Lieberman (growth factors and differentiation); Dr. John Loper (P450 systems in yeast); Dr. Daniel Nebert (Ah receptor, environmental genetics); Dr. Steven Pegg (RNA polymerase II and mutagenesis in transgenic and knockout mice); Dr. Alvaro Puga (dioxin and Ah receptor, signal transduction); Dr. Peter Stambrook (transgenic in genetically modified mice; genomic instability); Dr. James Stringer (recombination and mutagenesis in vivo); Dr. David Warshawsky (mechanisms of chemical carcinogenesis). Applicants must have U.S. citizenship or permanent residency and have completed a Ph.D. degree or equivalent. Candidates are required to deliver curriculum vitae in three letters of recommendation to: Dr. Peter Stambrook, Chairman, Department of Pharmacology, College of Medicine, University of Cincinnati, Cincinnati, OH 45267-0821. RESEARCH FELLOWSHIP
Genetic Disorders of Bone and Gene Therapy
The molecular biology of genetic disorders of bone matrix is being studied. There is a major emphasis on molecular and cellular mechanisms of bone disorders using antisense suppression. Project involves use of ribozymes to specifically suppress expression of mutant collagen allele in severe osteogenesis imperfecta. Prior experience in recombinant DNA techniques and strong personal and professional candidates should have Ph.D. and/or M.D./Ph.D. degree and less than five years of postdoctoral experience. U.S. citizenship not required. Send curriculum vitae and three references to: Dr. James A. Plotnick, Chief, Heritable Disorders Branch, NICHD, NIH, Building 10, Room 9241, 10 Center Drive, MSC-1830, Bethesda, MD 20892-1830. Telephone: 301-496-6683; FAX: 301-402-0234.
UNIVERSITY OF KUWAIT
Health Sciences Centre
Faculty of Medicine

POST OF CHAIRMAN IN MEDICAL BIOCHEMISTRY

The Faculty of Medicine is seeking applications for the post of Chairman for the Department of Biochemistry. Applications are sought from individuals with strong academic, research, and administrative backgrounds. The post will be at the rank of Professor. Candidates with extensive experience in teaching and administrative background in a medical school are preferred. Specialization may be in any of the following areas: molecular biology, endocrinology, enzymology, nutrition, and clinical chemistry.

Applicants must have 15-20 years of experience after completing their Ph.D.

The Department is currently involved in an undergraduate programme and is planning to reacitivate its M.Sc. programme.

A generous package is offered, including annual round trip air tickets for appointee and family, as well as allowances for accommodation and furniture, 60 days (2 months) paid summer leave, two weeks mid-year break, end-of-service gratuity, children's education allowance, and free medical care in Kuwait government hospitals.

Monthly (tax free) salary according to the University's Academic Staff Salary Scale. A clinical allowance is paid by the Ministry of Health for 10 months a year to staff involved in the Ministry programme.

Applications should be sent along with curriculum vitae and names of three referees to:

The Dean
Faculty of Medicine
Kuwait University
P.O. Box 24923
13110 Safat, Kuwait

The Nestlé Research Center at Lausanne in Switzerland is seeking an NMR Spectroscopist in the field of Carbohydrate and Polysaccharide Analysis to strengthen the research on the structural determination of biological macromolecules of plant origin, food materials and fermented products using solids and liquids NMR spectroscopy. The NMR spectroscopist will be in charge of developing analytical projects on polysaccharides, complex carbohydrates and other polymers. The person appointed will be responsible for choosing the necessary equipment in collaboration with a team of specialists and will be committed to work with the existing research groups at the Nestlé Research Center.

Candidates should have a Ph.D., substantial research accomplishments and a high level of expertise in the fields of solids and/or liquids NMR spectroscopy.

Should you be interested, please send your application; including curriculum vitae and references, to the following address:

Nestlé Research Centre
Human Resources
Attn. Mr. M. Jullierat
P.O. Box 44
CH-1000 Lausanne 26 SWITZERLAND
POST-DOCTORAL FELLOWSHIPS

The NZ Science & Technology Post-Doctoral Fellowships Scheme provides early career support for New Zealand scientists, engineers and social scientists of outstanding talent, for post-doctoral research either locally or overseas. Applicants must be New Zealand citizens or permanent residents of New Zealand.

Fellowships will normally have a maximum value of NZ$70,000 (incl. GST) per year; the stipend will on average be NZ$44,444 (NZ$50,000 incl. GST) with the balance available to cover the direct costs of the research. Fellowships tenable in overseas countries will have an overall value that reflects costs of working in the particular country.

Applications must be received by 14 March 1997, on the application form available from the Foundation. Please contact:

Foundation for Research, Science and Technology
PO Box 12-240, Wellington, New Zealand.
Tel: 64-4- 499 2559, Fax: 64-4- 499 2568
Email: pdfs@frst.govt.nz

GLOBAL CAREER OPPORTUNITIES

KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH

Kuwait Institute for Scientific Research (KISR) is a nonprofit organization actively engaged in applied research in the fields of environmental and earth sciences; food resources; engineering; petroleum, petrochemicals, and materials; and technoeconomics.

KISR has vacancies for the following fields:

**FOOD MICROBIOLOGY**

**MAJOR DUTIES:** Carrying out research studies on food spoilage, food processing and catering sanitation, food quality control, and food poisoning and intoxication.

**QUALIFICATIONS:** Applicants should have a Ph.D. in food microbiology with a minimum of five years of relevant experience. Applicants must be capable of initiating project ideas and of developing and implementing their projects. Knowledge of the state-of-the-art microbiology analytical tools is highly desirable and industrial experience is an asset.

**FOOD SCIENCE/TECHNOLOGY**

**MAJOR DUTIES:** Conducting applied research studies in the general area of food processing with demonstrated evidence of research skills in more than one area such as dairy, meat, prepared meals, and/or cereal technology.

**QUALIFICATIONS:** Applicants should have a Ph.D. in food science/technology with a minimum of five years of relevant experience. The candidate should be well-rounded with wide experience in food processing/quality control. Applicants must be creative and self-motivated and should also have demonstrated ability to carry out independent research and to develop and implement their own projects. Industrial experience is an asset.

KISR offers attractive tax-free salaries commensurate with qualifications and experience, and generous benefits that include: gratuity, free furnished air-conditioned accommodation, school tuition fees for children, six weeks annual paid vacation, air tickets, free medical care, and life insurance.

Interested applicants are requested to send their curriculum vitae with supporting information not later than one month from the date of this publication to:

Personnel Manager
Kuwait Institute for Scientific Research
P.O. Box 24885
13109 Safat - KUWAIT

RACV CHAIR OF ROAD SAFETY

(Readvertised)

This new position provides an opportunity for an outstanding scholar of international standing to make a major contribution to road safety research and teaching. The professor will join a dynamic multi-disciplinary team at the Accident Research Centre and will also have a part-time appointment in the department of the university most closely allied with his/her discipline.

The Accident Research Centre was established in 1987 as a multidisciplinary research centre not part of any faculty. It now has a staff of 50 academics and 4 support staff engaged in a wide range of externally funded research projects, about two-thirds of which relate to road safety. Valuable working relationships have been developed with several university departments and the appointment of the professor will enable teaching and supervision of postgraduate research in road safety to be expanded. Good links have also been established with government and other agencies with responsibilities for road safety, which facilitate acquisition of data for evaluation research and adoption of the centre's research findings.

The salary of the professor and secretarial support is being funded by the Royal Automobile Club of Victoria (RACV) Ltd, initially for five years, and hence the appointment will be initially for five years.

**Salary:** $461,780 per annum. Superannuation, travel and removal allowances are available.

Specific enquiries about the position may be directed to Professor Peter Vulcan, Director, Accident Research Centre, telephone +61 3 9905 4372, facsimile +61 3 9905 4383.

Information on application procedures and further particulars may be obtained from Ms Bronwen Meredith, Personnel Manager (Senior Appointments), Monash University, Clayton, Victoria 3168, Australia, telephone +61 3 9905 9028, facsimile +61 3 9905 6857; email: bronwen.meredith@adm.monash.edu.au

Selection documentation may be accessed electronically on the world wide web: http://www.monash.edu.au/personnel/recruit/strappas/

Applications should reach the Director of Personnel Services, Monash University not later than Friday 1 February 1997.
The mission of Human Genome Sciences is to identify and develop drugs and diagnostic products based on its leadership position in the discovery and expression of novel genes from human, animal, plant and microbial origin.

**SCIENTIST, PhD/MD**

This Scientist position is available for PhD/MD applicants with at least 5 years laboratory experience in Pharmacology to conduct studies in small animals with novel therapeutic proteins. The candidate should have expertise in wound healing/tissue repair and small animal models of disease (dermal, connective tissue, inflammation). Histopathology and in vitro experience is desirable, but not necessary.

HGS encourages the pursuit of academic excellence and offers a competitive benefits package including educational reimbursement, subsidized health club membership and 401(k) with employer match. Look for us on the Internet at www.hgs.com for additional information. For immediate consideration please send/fax your resume to Human Resources Department, Human Genome Sciences, Inc., Job Code #MA12/13, 9410 Key West Avenue, Rockville, MD 20850. FAX: (301) 309-1845. EOE, M/F/D/V.

**Human Genome Sciences, Inc.**

**Dedicated To Discovery For Health**

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**Bioinformatics**

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**Head of Bioinformatics**

The ideal candidate we seek to help establish our new Bioinformatics Group will possess a PhD in a physical science, computer science or mathematics and a minimum of 5 years' experience in large scale systems development. Technical expertise in data analysis, programming, and database development, plus experience with bioinformatics development and/or management of an informatics group required. Familiarity with principles of molecular biology and chemistry is highly desirable; excellent communication skills are crucial.

**Bioinformatics Group**

We are currently building a Bioinformatics Group to support the application of our GeneChip technology in gene expression, mapping, polymorphism screening, gene discovery and diagnostic algorithm development. We have opportunities at several levels — exciting opportunities for you to grow with the Group and reenergize your career. We are accepting resumes from candidates with pertinent experience, excellent communication skills and a strong desire to succeed as part of an upstart team.

Offering a small company atmosphere with big scientific potential, Affymetrix provides attractive salaries, comprehensive benefits, and the exhilarating synergy of our world-class multidisciplinary team. For consideration, please send or fax your resume to Affymetrix, Human Resources, 3380 Central Expressway, Santa Clara, CA 95057; Fax (408) 481-0422. We are an equal opportunity employer.

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**RALSTON PURINA MISSOURI PROFESSORSHIP OF SMALL ANIMAL NUTRITION**

The College of Veterinary Medicine, University of Missouri, announces the Ralston Purina Missouri Professorship of Small Animal Nutrition. This newly-endowed Professorship offers a unique opportunity for a highly-motivated individual to develop a focused research effort in the areas of small animal nutrition, including the nationally-recognized Food for the 21st Century Program. The successful candidate will be expected to develop a sustained, extramurally-funded research program in nutrition and to provide consultation on nutritional aspects of disease management in the Veterinary Medical Teaching Hospital. The Ralston Purina Professor should be a program builder who will collaborate with other nutritionists on Campus. The Food for the 21st Century Program offers particular opportunities for collaboration. This is a multidisciplinary effort that includes faculty from the Colleges of Agriculture, Food and Natural Resources, Arts and Sciences (Biological Sciences), Human Environmental Sciences, Engineering, and Veterinary Medicine, and the School of Medicine, plus the Research Reactor. Current research efforts of faculty in the nutrition cluster of this program are focused particularly in two areas: 1) nutritional biochemistry of minerals and 2) lipids, membranes, and signal transduction. Candidates with expertise in one of these areas or nutritional aspects of one of the College of Veterinary Medicine's established niches in cardiovascular sciences, opthalmology, and reproductive biology are particularly encouraged to apply. However, scientists with established programs in other areas will also be considered. An excellent salary and start-up package are available. Substantial discretionary funds will be provided yearly through the endowed.

Candidates should have a DVM and/or PhD and an established research program in nutrition, or an area that has direct implications for nutrition, and be qualified at the academic level of Professor. Applicants should send a letter of intent, curriculum vitae, and the names of three references by March 1, 1997, to Dr. Mark P. Nasisse, Kraeuchi Professor of Veterinary Ophthalmology and Chairman of the Search Committee, A373 College Hall, University of Missouri, Columbia, MO 65211. Telephone: (573) 882-7821.

The University of Missouri-Columbia is an equal opportunity institution and complies with the guidelines of the Americans with Disabilities Act of 1990. If you have special needs as addressed by the ADA and need assistance with this or any portion of the application process, notify us at the above address or telephone number as soon as possible. Reasonable efforts will be made to accommodate your special needs.

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Seaver College, the undergraduate liberal arts college in Pepperdine University, seeks to fill the following positions:

**Biology (Two positions)**

Two broadly trained biologists with competencies between them to include genetics, microbiology, cell biology, and developmental biology (plant or animal systems). Ideally, one position will cover genetics and microbiology and the other cell and developmental biology, although other combinations of these specialties will be considered. These are tenure-track positions to begin in fall 1997. The successful applicants will be expected to teach specialty courses for upper division biology majors, participate in the introductory cell biology course for freshman biology majors, and may also be assigned a non-majors biology course as needed. Promise of/for excellence in teaching at the undergraduate level is essential and an active research program with undergraduates is expected. The candidate will be expected to pursue external funding.

**Chemistry (Two positions)**

One tenure-track position in Chemistry beginning in August, 1997. Responsibilities will include teaching in the General Chemistry program and in a specialty area. Ideally, this position will be filled by an individual with strong interests and commitment to chemical education. Specialty areas include, but are not limited to, biochemistry, biorganic chemistry, or materials science. Promise of/for excellence in teaching at the undergraduate level is essential and an active research program with undergraduates is expected. The candidate will be expected to pursue external funding.

A one-year Visiting Lecturer Sabbatical Replacement with teaching responsibilities in both General and either Physical or Organic Chemistry.

Pepperdine University is an independent Christian university, administered by a self-perpetuating Board of Regents, and maintains a relationship to the Churches of Christ. Active members of the congregations of the Church of Christ are especially encouraged to apply. Applicants are encouraged to include in their cover letter a statement addressing their support of the mission of the university. The mission statement of the university and information about the program may be examined on the Internet at http://www.pepperdine.edu/mission.htm.

Send a letter of application, to be received by February 1, 1997, including a statement of teaching and research goals, vita, and names of three references to Dr. Norman Hughes, Biology Search Committee; or Dr. Ben Hutchinson, Chemistry Search Committee, Natural Science Division, Pepperdine University, 24255 Pacific Coast Highway, Malibu, CA. The university is an equal opportunity employer: women and minorities are encouraged to apply. Positions will be filled pending funding.
IN-VITRO DIAGNOSTICS

SENIOR SCIENTIST

Roche Diagnostic Systems, Inc., a subsidiary of world-renowned Hoffmann-La Roche, Inc., is a leader in the development, manufacture, and marketing of in-vitro diagnostics for hospitals, laboratories, and physicians. We are seeking a Senior Scientist to be involved with the research and development of immunologically-based diagnostic assays.

The ideal candidate will have a Ph.D. in Chemistry or a Biological Science and a minimum of 3 years experience in the development of immunologically-based, in-vitro diagnostic assays. Experience in immuno-chromatographic assays and supervisory experience in an industrial setting preferred. The ability to function independently is a must, as are good written and oral communication skills.

We offer a competitive salary, generous benefits package, and a state-of-the-art environment that is conducive to professional success. For consideration, please forward your resume and salary requirements to: Mr. John Mucci, Dept. TWT-96, Roche Diagnostic Systems, 1080 U.S. Highway 202, Branchburg, New Jersey 08876. We are an equal opportunity employer.

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POSTDOCTORAL INVESTIGATOR

Physical Oceanography Department seeks individual to participate in scientific analyses of data collected during the Coupled Ocean-Atmosphere Response Experiment (COARE). Goals include synthesize diverse types of air-sea flux data, including that available from atmospheric numerical models and produce maps of surface fluxes in center of Intensive Flux Array (IFA) on fine space and time scales; produce coarser resolution maps over entire IFA; use forcing fields and oceanographic data to investigate response to various types of atmospheric forcing. Ph.D. in physical oceanography, meteorology or related area or equivalent required. Experience with data assimilation, mapping and numerical models desired. Appointment will start on or about January 1, 1997. Send resume to: Human Resources Office, BOX 54PSFC12, Woods Hole Oceanographic Institution, Woods Hole, MA 02543.

Woods Hole Oceanographic Institution
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NIH Has A New Address

The National Institutes of Health has introduced a new web site. Now, the latest news about clinical and research training opportunities at NIH can be accessed by visiting us at http://helix.nih.gov:8001/oe/

At the site, you can quickly obtain information regarding clinical and postdoctoral training. Review the NIH tenure-track openings. Take a look at the NIH Postdoctoral Research Fellowship Opportunities Catalog which chronicles research being conducted in all NIH laboratories. You can even apply electronically for positions.

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Plus, the web site links to all NIH institute and laboratory home pages, provides a calendar of events, and offers links to many other areas.

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National Institutes Of Health
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POSTDOCTORAL POSITION IN PRIMATE PSYCHOBIOLOGY

A position is available for a postdoc in the Primate Unit of the National Institute on Alcohol Abuse and Alcoholism in Poolesville, MD. Applicant is expected to develop a program of research in primate psychobiology and social behavior. Expertise in primate social behavior and behavior neurobiology, interest in developmental psychopathology, and willingness to integrate concepts with alcohol research is necessary. Interest in investigating interindividual differences and gene-environment interactions preferred. Candidate must be willing to work as a team member while developing an independent program. Research includes both laboratory and field settings.

The deadline for submission of applications is January 15, 1997. Applicants must have less than five years of postdoctoral training and should submit a curriculum vitae, a detailed statement of research interest, and three letters of reference to: Dr. J. Dee Higley, NIH Animal Center, PO Box 529, Building 112, Poolesville, MD 20837.
UNIVERSITY-INDUSTRY COLLABORATION TO DEVELOP NEW DIAGNOSTIC AND THERAPEUTIC APPROACHES (BIOCHEMISTRY AND BIOLOGICAL CHEMISTRY)

University-Industry collaboration to develop new diagnostic and therapeutic approaches for the early detection and treatment of diseases (biological chemistry). The work is at the interface of molecular biology and computational biology. 

POSTDOCTORAL POSITION

University of Maryland

POSTDOCTORAL POSITION

University of Connecticut

UNIVERSITY OF ILLINOIS

Department of Molecular and Cellular Biology

POSTDOCTORAL POSITION

University of Virginia

POSTDOCTORAL POSITION

University of Chicago

POSTDOCTORAL FELLOWS

University of California, Los Angeles

POSTDOCTORAL POSITION

University of Arizona

POSTDOCTORAL POSITION

University of California, Berkeley

POSTDOCTORAL FELLOWSHIP

University of California, San Francisco

POSTDOCTORAL TRAINING PROGRAM

University of California, San Francisco
POSITIONS OPEN
CARDIOLOGY BRANCH
Toren Finkel, Ph.D.

A postdoctoral position is available immediately in the Cardiology Branch of the NHLBI to study the role of reactive oxygen species in signal transduction. (See Science, 270:296–299, 1995; PNAS, 93: 11484–11485, 1996; MBC, 12:7118–7121, 1996.) A strong background in molecular and cellular biology is essential. Experience with the construction and use of recombinant adenoviruses is preferred. Applicants must have a Ph.D. and/or M.D. and at least two years of postdoctoral experience. Submit curriculum vitae and references to: Toren Finkel, M.D., Ph.D., Cardioiology Branch, 10 Center Drive, MSC 1650, Building 10, Room 7B-15, Bethesda, MD 20892-1650.

POSITIONS OPEN
POSTDOCTORAL POSITION
Molecular Neurobiology
Applications are invited for a POSTDOCTORAL FELLOWSHIP to study the molecular basis for the scrotogenic or dopaminergic neuronal phenotype using serotonin, dopamine, or vesicular monoamine transporters as model systems. Applicants should have a Ph.D. or M.D. and at least five years of postdoctoral experience. Submit curriculum vitae and three letters of reference to: Dr. James A. Hamilton, Division of Biophysics, Boston University School of Medicine, 80 East Concord Street, W302, Boston, MA 02118. Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION
Cellular Immunology
Applications are invited for a POSTDOCTORAL FELLOWSHIP to study the cellular immunity in patients with natural killer cell defects. Faculty mentor: Dr. Robert M. Schreier, Laboratory of Cellular/Clinical Immunology, National Institute of Allergy and Infectious Diseases, National Institutes of Health. Submit curriculum vitae and three letters of recommendation to: Dr. Robert M. Schreier, Laboratory of Cellular/Clinical Immunology, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD 20892-0175.

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