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Funding is tight and jobs are hard to come by, but the scientific career ladder has never presented more options. Depicted by artist Ken Perkins, the paths for scientists are winding, steep, and interlinked, connecting the traditional, ivy-covered halls of academia with nontraditional scientific venues. Highlighted in the special section beginning on page 1707 are such career alternatives as corporate and biotech workplaces and environmental science ventures and such nontraditional career choices as patent law and scientific activism. [Illustration: Ken Perkins]

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Where the Grass Is Rougher and Greener

To be a scientist involves extensive training, an insatiable curiosity, and a job. This issue of Science assumes the first two criteria have been achieved and examines the third criterion. Modern science no longer can be done by gifted amateurs with a magnifying glass, copper wires, and jars filled with alcohol. Computers, restriction enzymes, and cloud chambers give the modern scientist enormous power and breathtaking progress, but also grant requests, federal bureaucracies, and academic deans. In the Middle Ages a Ph.D. was declared by Charlemagne to be a scholar and hence exempt from income taxes for the rest of his life, but in the Middle Ages a scholar's income was well below the poverty line. A similar promise today would probably eliminate any shortage of scientists in the world. This issue of Science has a special section on careers that follows up on a similar issue last year and attempts to cover areas that our readers perceived were inadequately covered in the previous issue. The new findings, which are, of course, again incomplete because of the pressures of space, reveal not only the downsides of postdoctorals in holding patterns awaiting jobs and the anxieties of funding, but also the upsides of new found benefits of industry—for example, in the biotech arena—to those who had previously only considered academic science. Other upsides discussed include today's need for environmental scientists and the possibilities of fulfillment that can be experienced by scientists who are flexible in their choice of careers.

The world owes no one a living, and scientists do not expect to be an exception. The number of applicants for architects, farmers, president of the United States, and talk show hosts is in no more perfect register than it is for scientists. It is, however, particularly cruel for the individual and nonproductive for the nation when the disparity between jobs and applicants is seriously out of register, the training period is long and expensive, and the expectations of success are so easy to exaggerate. It is particularly frustrating that at a time when there is a need for scientists to help correct the pollution of the atmosphere and to create new industries for jobs Congress cuts the small increases in the National Science Foundation and National Institutes of Health budgets requested by the President. Because the training period is long, some consistency in funding would be desirable. The older members of the profession have a responsibility to keep the citizenry informed so that a young generation can be assured of a level of funding that promises a reasonable opportunity of success for those who are able and willing to work diligently. That message can be conveyed in two parts: (i) that a developed country with high wages cannot compete in a global economy with developing countries by making old products but must have the new innovative products that science can provide, and (ii) that new societal problems such as environmental protection, drug-resistant strains, and waste disposal need research if they are to be solved and well managed.

For all the downsides of today's funding crisis, our careers reader response suggests that the levels of satisfaction for science as a profession are high (80 to 90% for the very satisfied or more than satisfied levels). Indeed, very few scientists really wish that they had chosen another profession. So the path to being a scientist is hard, the annoyances even after you've arrived are great, but the rewards must be well worth it. In moments of frustration scientists may fantasize that being the husband of Liz Taylor or the wife of Johnny Carson would be a better life, but the job security of an assistant professor at a research university is probably better.

This issue on Careers in Science is a potpourri: a combination of anecdotal information on funding sources, guesses by prominent scientists as to future hot areas, expressions of the difficulties in finding jobs and keeping funding, and professional advice such as interview techniques and flexibility in objectives that should help both the aspirant for a job and the well-established careerist. It is not a peer-reviewed, scholarly document because the immediacy and the opinion orientation were considered more important than exhaustive statistics (we wanted, for example, to find the level of satisfaction in other professions and could find no comprehensive survey). Despite the fact that it is far less than a scientific analysis, its message is clear: that science is a great and rewarding career opportunity fraught with hazards and frustrations. Only the brave and resourceful need apply. But those who succeed rarely find other fields greener.

Daniel E. Koshland, Jr.
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Computer Speed and Sequence Comparison

Despite recent well-known advances in computer performance, it is still a commonly and erroneously held belief that rigorous sequence comparison methods are too expensive to use for protein database scanning.

In their recent report "Exhaustive matching of the entire protein sequence database," (5 June, p. 1443), Gaston H. Gonnet et al. suggest that the full self-comparison of the protein database would require 106 years of computer time (1) without reorganization of the sequence data by indexing on a Patricia tree. The implication is that such a task is beyond the capabilities of today's workstations.

The Smith-Waterman (2) local similarity algorithm, in common with other rigorous methods (1, 3), requires MN steps to calculate the optimum score for aligning two sequences of length M and N, which includes a consideration of insertions and deletions. To provide a fair test of modern computers, I have implemented this algorithm in C language, taking care to optimize the most frequently executed parts of the program.

When run on a Hewlett-Packard 730 (HP730) workstation, with the 141-residue human α-hemoglobin as a query, the program takes 368 seconds to scan the 23,044 sequences (8,375,696 residues) in the SwissProt database release number 22. Six minutes is a reasonable scan time that compares favorably with IntelliGenetics Inc.'s BLAZE, one of the speediest programs. For the same query, BLAZE runs a factor of 17.5 faster, but only on a dedicated 4096 processor MasPar computer. The HP730 time corresponds to 3.2 million array operations per second. The complete, rigorous self-comparison of the SwissProt data that has been considered impossible would require 3.5 × 1013 such operations, or 4.5 months of central processing unit time to complete on an HP730. Simple distributed processing techniques could reduce this figure to a few weeks (5). Single processor computers from DEC promise speeds up to four times the HP730 and would provide similar times on a single workstation.

Since the mid-1980s, the speed of typical laboratory computers has increased by a factor of 70, while their cost has been reduced by a factor of 10. In contrast, over the same period the database of known protein sequences has increased only by a factor of 8. If we ignore cost-performance gains, today's conventional computers are at least nine times faster at scanning today's database than the machines in 1985 were on a contemporary database. It seems likely that single processor computer technology will continue to keep ahead of the protein database until the large-scale automation of DNA sequencing becomes a reality.

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REFERENCES


Response: We stated in our article that "an exhaustive matching of the entire sequence database with the Needleman-Wunsch (1) algorithm has been thought to be essentially impossible" (italics added), quoting an expert in the field (2). If each pairwise comparison required 1 second to execute, then the time required for an algorithmically naive matching would be greater than a million years.

To the extent that we (and others) have not fully recognized the computational power of some of today's fastest computers, Barton's comments are enlightening. However, our approach and Barton's differ in three fundamental ways, all interesting to the general scientist who wants to use sequence alignments without becoming entangled in its mathematics.

First, there are always two approaches to solving major computational problems. One relies on ever-increasing computational power to speed brute force solutions. Our approach is to improve the algorithms used. While both improved computers and improved algorithms will speed any process, Barton's assured reliance on increasing computational power alone is based on a misleading calculation about the ability of such power (up by a factor of 70 since the mid-1980s) to keep pace with growth in the database (up by a factor of 8). As an exhaustive matching by naıve algorithms increases with the size of the data base squared, computational power has in fact barely kept pace with increase in the size of the database, even without genome sequencing projects and automated sequence collection.

Next, Barton implements the Smith-Waterman (SW) algorithm (3), which finds only a single match between two sequences. For example, let sequence A be composed of...
REFERENCES
2. W. Zopf, Die Pilze (Trewendi, Breslau, 1890), p. 27.

Women in Neuroscience

Recent discussions about gender parity in science note the decline of women in the academic pipeline sometime before attainment of the Ph.D. (Letters, 19 June, p. 1610; "Women in Science," 13 Mar., p. 1363; AAAS Presidential Lecture, 30 Sept. 1988, p. 1740). In my field, neuroscience, I have been struck by the contrast between the relatively high percentage of women receiving Ph.D.'s and anecdotal accounts of highly qualified women foregoing tenure-track faculty careers ("Women in Science," 13 Mar., p. 1366).

To quantify these impressions, I have analyzed female representation nationwide at different steps on the neuroscience career ladder between 1985 and 1990 (1). The results indicate a slight attrition among women working toward the Ph.D.; women constituted 43% of the student members of the Society for Neuroscience and 36% of neuroscience Ph.D.'s (2). Women were just as likely as men to continue on to a postdoctorate, and they received 38% of postdoctoral fellowships (F32) awarded by the National Institute of Neurological Diseases and Stroke. Moreover, women were no more likely than men to relinquish a fellowship before its full term had expired.

The largest attrition occurred at the next step, when postdoctoral fellows applied for a faculty position in neuroscience. Women comprised only 18% of the applicants for such positions and 12% of the individuals hired. Remedial actions should be taken at this crucial step.

Dean O. Smith
Department of Physiology,
University of Wisconsin, Madison, WI 53706

REFERENCES
2. "1989 survey of doctorate recipients" (National Research Council, Washington, DC, 1989); supplement to 1990 data provided by National Research Council staff.

Corrections and Clarifications

The last two sentences of the second paragraph of the report by Peter R. Buseck et al. (10 July, p. 215) should have read, "We subsequently confirmed the presence of CO and CO₂ by mass spectrometry. They occur within fracture-filling films in shungite, an unusual carbonaceous rock found near the town of Shunga in Karelia, Russia."
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PC Magazine, 1991
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Daniel Cohen, Ctr. d’Etude du Polymorphisme Humain
Malcolm Ferguson-Smith, Cambridge Univ., "Gene order by FISH and FACS"
Cassandra L. Smith, Univ. of California, Berkeley, "Progress and new approaches in making physical maps of human chromosomes"
Yoshihide Hayashizaki, Natl. Cardiovascular Research Inst., "Restriction landmark genomic scanning method and its application"

**Human Genetic Diversity**

P. Fasella (chair), Comm. of European Communities
L.L. Cavalli-Sforza, Stanford Univ., "Genetic diversity and history of the human species"
Alberto Piazza, Univ. of Torino, "Population genetics of Europe"
Kenneth Kidd, Yale Univ. School of Medicine
Svante Paabo, Univ. of Munich, "Ancient and modern DNA sequences as a tool to reconstruct human history"
Julia Bodmer, Imperial Cancer Research Fund, "HLA allele and haplotype frequencies in world populations"

**Model Organisms**

Marc van Montagu, Univ. of Ghent, "The Arabidopsis genome"
Piotr Slonimski, CNRS, "The esoteric, elusive, but conspicuous genes of Saccharomyces cerevisiae"
Eric Lander, Whitehead Inst.
Michael Ashburner, Cambridge Univ., "Genome mapping in Drosophila"
A.K. Raas*, Univ. of Leiden

**Contributed Papers: Oral Presentations**

(Speakers for this session will be chosen from among those submitting abstracts for poster sessions.)

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**Applications of the Human Genome Project**

John Hardy*, St. Mary's Hospital Medical School
Yusuke Nakamura, Japanese Fdn. for Cancer Research, "The Human Genome Project and cancer genetics"
Ulf Landegren, Univ. of Uppsala, "Ligase-mediated gene detection"

**cDNA Sequences and Intellectual Property**

Lennart Philipson (chair), EMBL
J. Craig Venter, Natl. Insts. of Health, "Changing the pace of human gene discovery and public policy paradigms"
Kenichi Matsubara, Osaka Univ., "Functional analyses of the human genome"
Rebecca Eisenberg, Univ. of Michigan, "Patenting the human genome"
Charles Auffray, Inst. d’Embryologie du CNRS, "The Genexpress cDNA Program: Towards an inventory of the repertoire of transcribed human sequences"
Andreï Mirzabekov, Soviet Academy of Sciences, "cDNA sequencing and sequence comparison by hybridization with oligonucleotide matrix: Advantages and implications"

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Participants:
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R. Chanock N. Fraser S. Katz W. Prusoff
I. Chen D. Ganem B. Larder B. Roizman
B. Cullen E. Gilboa R. Liddington E. Vitetta
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**NEW REFERENCE REAGENTS:**

<table>
<thead>
<tr>
<th>MURINE</th>
<th>HUMAN</th>
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<tr>
<td>IFN-α</td>
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<tr>
<td>IFN-β</td>
<td>IL-4</td>
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<tr>
<td>IFN-γ</td>
<td>GM-CSF</td>
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<td>TNF-α</td>
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**OTHER HUMAN REFERENCE REAGENTS CURRENTLY AVAILABLE:**

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<th>IFN-α</th>
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<th>IL-6</th>
<th>IL-7</th>
<th>G-CSF</th>
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<tr>
<td>IFN-γ</td>
<td>IL-2</td>
<td>IL-5</td>
<td>IL-8</td>
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</tr>
</tbody>
</table>

Dr. Craig W. Reynolds
Biological Response Modifiers Program
NCI-FCRDC
Building 1052, Room 253
Frederick, MD 21702-1201
FAX: 301-846-5429

Shipments will be made collect express. Please allow 3 to 4 weeks for delivery.

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The repository of the Biological Response Modifiers Program (BRMP), Division of Cancer Treatment (DCT), NCI, NIH, announces the availability of recombinant human lymphokines IL-1α, IL-1β, and IL-2; the monoclonal antibody 11B.11 against mouse IL-4; and the monoclonal antibody 3ZD against human IL-1β.

Use of these materials is limited solely to in vivo and in vitro basic research studies and is not intended for administration to humans.

The lymphokine materials are aliquoted in 100 µg amounts (>10^6 units) and are available to investigators with peer-reviewed support. However, manufacturers’ restrictions prohibit distribution of these materials to for-profit institutions or commercial establishments.

The monoclonal antibodies are available to peer-reviewed investigators, for-profit institutions or commercial establishments. The 11B.11 antibody is available in either 3 or 50 mg vials. The 3ZD antibody is available in 5 or 20 mg amounts.

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All requests should be accompanied by:

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**FPP [14C]**  \( \text{DG} [3^H] \)  \( \text{GGPP} \)**

<table>
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<th>NEN</th>
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<th>AMESHAM List $</th>
<th>ARC $</th>
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<td>—</td>
<td>699</td>
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enced to the external surface of the membrane patch) was ~40 mV. Studies were performed at 35°C. After excision of a patch from the cell, channels were first phosphorylated with 1 mM ATP and 75 nM catalytic subunit of PKA (Promega), the phosphorylation mixture was then removed, and various concentrations of MgATP were added. *P*<sub>0</sub> was determined from amplitude histograms in patches that contained five channels or less. The number of channels in a patch was determined as the maximum number observed with 2.53 mM MgATP [R. Horn, Biophys. J. 60, 433 (1991)]. Data are presented as the mean ± SEM.


42. We thank R. Gregory and A. Smith for generously providing some CFTR mutants and stably transfected cells; S. Thompson and R. Mulligan for providing stably transfected cells; M. Keene for constructing a number of the CFTR mutants; B. Plapp for discussions of the kinetics of ATP interactions with the CFTR; L. DeBerg and P. Karp for culturing the cells; T. Mayhew for helping prepare the manuscript; and our colleagues who provided many stimulating discussions. Supported in part by the Howard Hughes Medical Institute, the Cystic Fibrosis Foundation, and the National Heart, Lung, and Blood Institute.

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Postdoctoral opportunities are available in a variety of disciplines in the basic biomedical sciences at the NIH. Candidates should have either a graduate doctoral degree (e.g., PhD, MD/PhD) or a professional degree (e.g., MD, DO, DDS, DMD, or DVM) accompanied by previous laboratory research experience.

A catalog featuring descriptions of NIH research laboratories and other postdoctoral opportunities is available through the NIH Office of Education. Current postdoctoral openings may be accessed through the NIH EDNET Bulletin Board's POSTDOC conference (1,3014922221 or 1,8003582221). The settings for modern access are "7,Even,1". When connected to NIH, type in ",vt100" at the connect message, "F5E" at initial, and "AJL1" at account.

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To Training On Of Scientists And Researchers.

Internal course work, and mentoring will be provided to assist participants in their retraining and eventual re-entry into a research career. Plans are to appoint the initial class in the fall of 1993 or 1994, and inquiries concerning this program are welcome.

Graduate Program in Genetics

Students interested in doctoral training in genetics are encouraged to consider the NIH-George Washington University (GWU) Graduate Genetics Program. NIH and GWU faculty will provide didactic instruction at GWU, and dissertation research will be conducted in NIH laboratories. Full tuition and stipend support is provided.

Medical and Dental Student Programs

The Summer Research Fellowship Program provides 8 to 10 weeks of basic research training for students in the summer following their first or second year. In addition, nineteen different Clinical Electives are available for third and fourth year students, providing clinical and clinical research experiences unduplicated elsewhere.

Undergraduate Student Programs

Students can participate in state-of-the-art biomedical research through either the Summer Internship Program or the fall Research Semester for Undergraduate Students in the Biomedical Sciences. In addition, juniors or seniors who are preparing for careers as secondary science teachers may participate in the Pre-Service Teacher Program to gain experience in biomedical research, the use of new technologies, and the teaching of bioethical issues.

College and University Faculty Programs

To help improve the opportunities available to groups underrepresented in the biomedical sciences, plans for a summer institute are under development for faculty from women's colleges and two- and four-year institutions with a significant minority enrollment. Faculty will be able to enhance their personal scientific development as well as gain assistance in updating their courses in molecular and cellular biology.

Secondary School Teacher Programs

Several summer programs provide opportunities for teachers to participate in laboratory research, including an In-Service Program which offers an in-depth course in molecular biology before the research experience begins and training in the teaching of bioethics and use of electronic databases.

To find out how the NIH can play a role in your research training, please contact the NIH Office of Education for information on any of these programs.

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If you've been looking for the opportunity to join forces with a preeminent pharmaceutical team, imagine building your career at Berlex. Our current efforts in oncology and cardiovascular research have created the following exceptional scientific openings.

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As a team leader, you'll look to your strong supervisory and interpersonal skills in coordinating associates to conduct experiments, investigate new areas for potential drug development and present chemical and design-related concepts, both in oral and written form. A Ph.D. in Chemistry/Biochemistry or Synthetic Chemistry is required along with 5-15 years of postdoctoral experience in any of the following areas: Peptide Synthesis, Medicinal Chemistry, Pre-Clinical Toxicology or Animal Physiology and Pharmacology.

Scientists

A Ph.D. in Synthetic, Analytical, Physical or Organic Chemistry and 1-3 years' postdoctoral experience in Medicinal or Synthetic Chemistry or NMR and/or Mass Spectroscopy are required. Excellent oral and written communication skills and the ability to interact effectively with supervisors and associates are essential.

Associate Scientists

Working independently, your innovative and creative solutions to complex problems will be extremely instrumental. We require an MS degree in a scientific discipline and 5+ years' experience or a Ph.D. and 3+ years' experience in the design, execution and analysis of research in support of a variety of projects.

Associates

You must possess a Bachelor’s degree in a scientific discipline plus 3+ years' experience and be computer competent. An MS is preferred. These positions also require a meticulous attention to detail and excellent organizational and interpersonal skills. The ability to work well in a multidisciplinary team environment is also essential.

As a U.S. subsidiary of an international Fortune 500 company, Berlex offers competitive salaries and a full complement of benefits, including relocation assistance. If you'd like to be a part of our scientific team, please send your resume today to: BERLEX BIOSCIENCES, HUMAN RESOURCES, 213 E. GRAND AVE., SOUTH SAN FRANCISCO, CA 94080. We are an equal opportunity employer.
HOWARD HUGHES MEDICAL INSTITUTE

FELLOWSHIPS FOR BIOLOGICAL AND BIOMEDICAL SCIENCES

The Howard Hughes Medical Institute announces the 1993 competitions for fellowship programs that support training in fundamental biological and biomedical research. Awards, based on international competitions, focus on research directed to understanding basic biological processes and disease mechanisms. Fellowships may be held at academic or not-for-profit research institutions.

- **Predoctoral Fellowships in Biological Sciences**
  Up to five years of support for full-time graduate study toward a Ph.D. degree in biostatistics, cell biology and regulation, epidemiology, genetics, immunology, neuroscience, or structural biology. Applicants must not have completed the first year of postbaccalaureate graduate study in biology. *Application deadline: early November.*

- **Postdoctoral Research Fellowships for Physicians**
  An opportunity for physicians to further their training in research. Three years of support for training in fundamental research subsequent to postgraduate clinical training. *Application deadline: early January.*

- **Research Training Fellowships for Medical Students**
  An opportunity for medical students in the United States to explore a burgeoning interest in fundamental research. Support is awarded for one year of full-time fundamental research in a laboratory at the student's medical school or another institution (except NIH). *Application deadline: early December.*

- **Research Scholars at the National Institutes of Health**
  Under this joint HHMI-NIH program, medical students in the United States spend an intensive year in research in the intramural program at the NIH in Bethesda, Maryland. Residence is provided at the Cloister on the NIH campus. *Application deadline: early January.*

**FOR PROGRAM ANNOUNCEMENTS AND APPLICATIONS**

**FOR PREDOCtorAL FELLOWSHIPS:**
Hughes Fellowship Program  
The Fellowship Office  
National Research Council  
2101 Constitution Avenue, N.W.  
Washington, DC 20418  
(202) 334-2872

**FOR OTHER PROGRAMS:**
Howard Hughes Medical Institute  
Office of Grants and Special Programs  
Department AK93  
6701 Rockledge Drive  
Bethesda, MD 20817  
(301) 571-8412

The Howard Hughes Medical Institute, an Equal Opportunity Employer, welcomes applications from all qualified candidates and encourages women and members of minority groups to apply.
Opportunities In Cystic Fibrosis Research With Genzyme


Through the development of its Ceradase® enzyme to treat Gaucher disease, Genzyme has gained extensive experience in the application of protein replacement therapy in the treatment of protein deficiency diseases. In addition, Genzyme scientists and their collaborators have demonstrated that the defective ion transport mechanism present in airway cells taken from cystic fibrosis patients can be corrected in vitro by the insertion of normal CFTR genes into the cells.

Now, due to a major increase in resources committed to cystic fibrosis research and development, Genzyme has opportunities for individuals with a proven track record of accomplishment and contributions in areas directly or indirectly related to cystic fibrosis research.

Research Scientists

- **Protein Formulation and Delivery**
  - Devise new ways to purify analytical and reagent amounts of membrane proteins such as CFTR and fusogenic proteins. Candidates must have a Ph.D. with 4-10 years of post-doctoral experience including demonstrated expertise in the purification and analysis of membrane proteins. (Code SG1A)
  - Explore delivery of CFTR using liposomes, with or without targeting. Candidates must have a Ph.D. and 3+ years of post-doctoral experience including experimental experience in designing, constructing, and analyzing liposomes and liposome-cell interactions, especially as they relate to membrane fusion. (Code SG2A)

- **Molecular Biology**
  - Apply your expertise in the development of a program for receptor mediated entry of DNA into epithelial cells. A Ph.D. and experience in cellular and molecular biology are required. (Code SG3A)
  - Clone and characterize human membrane fusion proteins. A Ph.D. and experience in cellular and molecular biology are required. (Code SG4A)

- **Cellular Biology**
  - Scientist or veterinarian to work with whole animals including primates to assess CF protein and gene therapy in whole lung. Requires Ph.D. with extensive animal physiology experience specializing in lung function or delivery of drugs to the lungs. (Code SG5A)

These represent current opportunities. However, individuals with expertise in related areas are also encouraged to apply.

In addition to the opportunity to make a significant contribution in cystic fibrosis research, Genzyme offers an excellent compensation and benefits package, including 3 weeks' vacation, a 401(k) plan with a company match, extensive insurance benefits, and an Employee Stock Purchase Plan.

Please forward your resume, indicating job code, to: Human Resources, Dept. 5918, Genzyme Corporation, One Mountain Road, Framingham, MA 01701.

An equal opportunity employer.
RESPIRATORY PHARMACOLOGISTS

The Procter & Gamble Company has openings for three respiratory pharmacologists, two experienced and one entry level, who will become part of highly interactive multidisciplinary project teams at our Miami Valley Laboratories in Cincinnati, Ohio.

Cell & Molecular Biology/Inflammation/Immunology Focus (Dept. MR2) An experienced Ph.D. pharmacologist is required to design and execute a major research program investigating the immune and/or inflammatory pathogenesis of respiratory allergy, asthma, and related diseases. The position requires a Ph.D. in pharmacology and at least five years of academic or industrial experience in preclinical/clinical models of respiratory inflammation and in receptor pharmacology at the tissue, cell, and/or molecular levels. Experience in leading/directing other doctoral level collaborators and/or subordinates is needed. Broad training in pharmacology and physiology including knowledge of molecular biology based tools and methodologies is required. Training in biochemistry, molecular biology, and cell biology and a working knowledge of the cell and molecular components involved in respiratory inflammation is desirable.

Disease Pathogenesis and Therapeutic Focus (Dept. DL) This position requires a minimum of five years experience in respiratory research and a record of leadership and creativity. The candidate will work with a team of scientists to develop understanding of the pathogenesis of respiratory disease leading to the discovery of new and improved therapies. The candidate must have a Ph.D. in pharmacology, physiology, immunology, or biochemistry, and possess a knowledge of mechanisms of respiratory disease and therapeutic approaches for treatment of these diseases. The successful candidate must have a record of accomplishment with strong evidence of leadership skills directed towards setting research program direction. Individuals with experience in preclinical disease models, clinical research, and industry experience will be given priority.

Upper Respiratory Drug Discovery Focus (Dept. SG) This is an entry level opening for a Ph.D. biomedical scientist to join a drug discovery team working on novel therapies for the treatment of upper respiratory symptoms. The applicant must have a Ph.D. in physiology or pharmacology and a minimum of two years of research experience (postdoctoral or industrial), preferably in respiratory or cardiovascular research. The individual will have demonstrated technical and problem-solving skills and will be expected to design and implement preclinical research strategies in support of our respiratory drug discovery efforts.

Procter & Gamble is a world leader in the research, development, and manufacture of consumer products, including those in health care, personal care, beauty care, and pharmaceutical areas. Sales last year exceeded $27 billion, and the R&D budget was $786 million. We offer competitive salaries, a benefits package in the top 5% of U.S. firms, and excellent opportunities for personal and professional growth.

Applicants must be presently authorized to work in the U.S. on a full-time basis. Send resume and list of publications, specifying position(s) of interest to:

Dr. N.G. Howell, The Procter & Gamble Company (Place Dept. code here), P.O. Box 398707 Cincinnati, Ohio 45239-8707.

No Agency Referrals Please. P&G is an Equal Opportunity Employer.
BIOTECHNOLOGY

At Promega Corporation, we use the expertise and creativity of our people, technology and financial resources to develop, manufacture and deliver innovative scientific products and services worldwide. We strive to provide a rewarding work experience for our employees and to achieve unparalleled excellence, quality and prosperity in our business.

Consider the following opportunities at Promega:

**R & D SENIOR SCIENTISTS (PhD)**
- Cellular Immunology (Adhesion Molecules/Receptors)
- Signal Transduction
- Eukaryotic Genetics & Genome Mapping
- Technology Development in Molecular & Cellular
- Molecular Biologist (Mammalian Expression Systems)

**R & D SCIENTISTS (MS)**
- Nucleic Acid Detection & Purification
- Enzyme Purification & Enzymological Analysis
- Eukaryotic Genetics & Genome Mapping
- Signal Transduction
- Protein Analysis
- Bioorganic Chemist

**PRODUCTION SCIENTISTS (BS/MS)**
- DNA Typing
- Molecular & Cellular Biology
- Nucleic Acid Purification/Sequencing
- Molecular Biologist/Affinity Purification Chemist
- Enzyme Discovery/Protein Engineering
- Restriction Enzymes

**QUALITY ASSURANCE SCIENTIST (BS)**

**METROLOGIST (BS)**

**TECHNICAL SERVICES REPRESENTATIVES (BS/MS)**

**MARKETING MANAGER (MS)**
- Cell Biology

**NATIONAL SALES MANAGER (MS/PhD)**

**FIELD APPLICATIONS SPECIALISTS (BS/MS)**
- Boston Area
- New York City Area
- Research Triangle Park Area
- Texas

To apply for any of these positions or for further information, forward a resume indicating position of interest with references and salary history or write to: Promega Corporation, Kathy Potter, Employment Coordinator, 2800 Woods Hollow Road, Madison, WI 53711-5399. Equal Opportunity Employer.
(No agency solicitation accepted.)
If you’re ready to reach greater heights, we’ll give you the chance to grow.

We’re Los Alamos.

Wherever you are in your career growth, there’s room to achieve even greater heights at Los Alamos National Laboratory.

We have over 7,000 professionals conducting both basic and applied research, learning more about the universe we live in, and solving specific technical and scientific problems.

We believe in having a culturally diverse workforce; people who can use their varying experiences to look at problems from all angles.

Whether you specialize in Life Science, Materials Science, Physics, Chemistry, Engineering, Mathematics, Computer Science or another technical field, you’ll find the growth potential you’ve been looking for at Los Alamos.

For job vacancy information, call (505) 667-8622.

Affirmative Action/Equal Opportunity Employer. Ability to obtain a Department of Energy Security Clearance may be required. Los Alamos National Laboratory is operated by the University of California for the U.S. Department of Energy.
PhD Neurobiologists
Pfizer Central Research

Pfizer, a U.S. based multinational pharmaceutical company has earned its reputation as an industry leader by maintaining its pharmaceutical research at the forefront of biomedical sciences and therapeutic innovation. Consider these exciting research opportunities in the Neuroscience Department located at our expanding Central Research Laboratories in Groton, Connecticut.

We now have openings for PhD neuroscientists with a minimum of 2 years of postdoctoral experience in the areas of neurodegenerative diseases, psychotherapeutics, and molecular neurobiology. We seek motivated individuals with an interest in applied research and a proven record of creative scientific problem solving. The ability to work as a member of a multidisciplinary team with a common goal of discovering breakthrough approaches to treating diseases of the nervous system is essential.

**Neurodegenerative Diseases**
Areas of special interest are Alzheimer's disease and B-amyloid processing/toxicity, excitotoxicity, intracellular Ca2+ homeostasis, neuronal Ca2+ channels and cognitive psychopharmacology. Requires experience in in vivo and in vitro models of neurodegeneration.

**Psychotherapeutics**
Our programs emphasize research in psychosis, anxiety, depression, and drug addiction. Experience in neuropharmacology and interest in advancing the treatment of psychiatric illness and evaluating the functional properties of novel drugs highly preferred.

**Molecular Neurobiology**
Experience in molecular neurobiology and a desire to be at the forefront of its application to drug discovery are essential. Experience in cDNA cloning, quantitative RNA analysis, library construction, DNA sequence analysis, PCR, or regulation of gene expression/translation is required.

In addition to a stimulating research environment, we offer a competitive compensation and benefits package, including generous relocation assistance to this southeastern Connecticut shoreline community. Qualified applicants may send a resume, description of research experience, and names of three references to: Mr. Kym Goddu, Personnel Associate, Employee Resources Department, Pfizer Inc, Central Research Division, Eastern Point Road, Groton, CT 06340. We are an equal opportunity employer.
At Sandoz Pharmaceuticals, research is the tool by which we gain the knowledge needed to improve the lives of countless thousands across the country and around the world. That's why we've committed substantial resources to expanding our Research Institute, which now includes a wealth of state-of-the-art technologies and brand new laboratory facilities.

If your career belongs on the leading edge of scientific research, you belong at Sandoz. We currently have immediate openings available for the following research professionals:

**EXPERIMENTAL TOXICOLOGISTS**

Experienced toxicologists to develop new methods and new projects related to the mechanism of target organ toxicity. The successful candidates should have a Ph.D. in Pharmacology, Toxicology, Biochemistry, Cell Biology or a related field and at least 2 years of experience in the pharmaceutical or chemical industries, or relevant experience in in vitro and in vivo toxicology testing of drugs or chemicals. Specific experience in hepatic or renal cell culture for toxicity testing and performing mechanistic studies on drug-induced cell injury is required. The ability to recommend and develop procedures for mechanistic studies to understand the nature of drug toxicity at the biochemical or cellular level is essential. Position #2065.

**ASSOCIATE DIRECTOR, REGULATORY TOXICOLOGY**

Experienced toxicologist to manage toxicology technician team leaders, study coordinator and toxicology drug formulation activities. The successful candidate will have a Ph.D. in Toxicology, Pharmacology or a related field and at least 8 years of broad experience in the methodologies, instrumentation and conduct of toxicology studies in the pharmaceutical industry or equivalent. Excellent oral and written communication skills, managerial leadership and supervisory skills are required. This individual will assist in the management of daily operations and long-term goals of Regulatory Toxicology. They will be responsible for risk assessment and safety evaluations of drug candidates for clinical trials and the preparation of toxicology reports and summaries for IND, NDA and related submissions. They will be expected to independently perform highly complex scientific work and will also represent Regulatory Toxicology on various project teams. Position # 2227.

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Being part of the research team at Sandoz has many advantages. Our salaries and benefits programs are designed to attract top candidates and provide them with the resources to produce their best. Comprehensive health, dental, and savings plans as well as fitness and athletic facilities are all provided at our attractive location in northwest New Jersey, which also allows for outstanding academic, cultural and outdoor pursuits. For consideration, please forward your curriculum vitae, position number, a statement of research interests and the names and addresses of three references to:

**SANDOZ**

SANDOZ PHARMACEUTICALS CORP
SRI Human Resources Department
Building 403/100
East Hanover, New Jersey 07936-1080
An Equal Opportunity Employer M/F/D/V
What do you have to do to get a position in science that provides challenge, variety, depth, freedom of research, supportive colleagues and mentors, interesting fields of investigation and respect?

Simple. Come to Unilever.

You already know our products. Perhaps it's time you knew our company better too. As one of the world's largest consumer products companies, Unilever is comprised of more than 500 individual concerns that produce food, household and personal care products in hundreds of countries around the globe. And, although these products are very different in nature, behind each and every one of them stands the solid research, technology and innovative thinking of Unilever Research.

Since 1902, our scientists have been working hard to make life easier — and better — for the people who use our products. Today, our worldwide research network is backed by an R&D budget of $650 million, and staffed by over 8,000 dedicated scientific professionals at state-of-the-art laboratories in the United States, England and the Netherlands.

Working in small, multi-disciplinary teams, and linked by sophisticated telecommunications systems that promote close collaboration between research teams, our scientists build strong relationships with peers and mentors, and maintain strong ties to academic, medical and research facilities around the world.

Here at our U.S laboratories in Edgewater, NJ, scientists with degrees in Analytical, Organic, Inorganic and Physical Chemistry; Biochemistry and Biological Sciences, and Chemical Engineering will find an environment where the challenge is to think across the conventional boundaries of science. Also in Edgewater is our newly established Skin Science Center where we are bringing together talented and creative individuals from a variety of areas — cell biology, colloid and surface science, pharmacology, behavioral science, material science, immunology, histology, enzymology, cellular differentiation and others — to explore and investigate the science of skin in a whole new way.

Challenge, freedom, variety. For the very reasons you chose science as a career in the past, it's time to choose Unilever as your future. For consideration, send your resume to: James R. Conti, Manager, Employee Relations, Dept. CIS92, Unilever Research U.S., 45 River Road, Edgewater, NJ 07020. An equal opportunity employer.
BS/MS Scientists

The Bristol-Myers Squibb Company in Syracuse, New York, has the following opportunities available due to expansion of our Worldwide Pharmaceutical Bio/Chem Division:

**CELL BIOLOGISTS**

Scientists with BS/MS degrees in Cell Biology or related fields are needed to support the development of improved cell lines, cell banks, and inocula for large-scale bioprocessing. Projects include monoclonal antibodies and recombinant protein derived from mammalian cells and metabolites from plant tissue culture. Previous industrial experience is preferred. **(ID#009-026)**

**PROTEIN CHEMIST**

Scientists with BS/MS degrees in Protein Chemistry, Chemistry or Biochemistry and experience in purification and analysis of proteins are needed to develop purification processes suitable for pilot plant scale production of clinical-quality therapeutic proteins. Projects include therapeutic monoclonal antibodies and recombinant proteins. Industrial experience in gram-scale processing and purification of proteins derived by cell technology under GMP conditions is preferred. **(ID#104)**

**MOLECULAR BIOLOGIST**

This position requires a scientist with a BS/MS in Molecular Biology or related field and experience in DNA hybridization, Southern analysis and PCR amplification techniques. Responsibilities include the analysis of genetically-engineered cell lines and in-process biologicals. Opportunities for gene cloning and expression also exist. **(ID#024)**

**PROCESS ENGINEER**

BS/MS level Biochemical Engineer or equivalent related discipline with a minimum of five years industrial experience in production and/or scale-up of microbial and/or cell culture processes required for this position. Must also have a thorough knowledge of regulatory requirements as they apply to large-scale biologics. Responsibilities include the scale-up and definition of manufacturing processes for biologics as well as cGMP validation for all new processes and elements. **(ID#012)**

**FACILITY ENGINEER**

BS/MS degree in Chemical Engineering or related discipline with industrial experience in process automation and maintenance and operation of pilot plant facilities is needed to coordinate the design/automation, construction, validation and maintenance of biotechnology facilities. Must also have a thorough understanding of regulatory guidelines as they pertain to cGMP facility operations and experience in the development of processes for the scale-up and production of biologics. **(ID#JT-1)**

**ANALYTICAL CHEMIST**

Individual with a BS/MS in Analytical Chemistry or closely related discipline and relevant experience in HPLC, electrophoresis and immunoassays of proteins. The individual will be responsible for the development, implementation and application of analytical tests for biological products, including primary metabolites, antibiotics, monoclonal antibodies and taxol. **(ID#JT-2)**

**PROTEIN PURIFICATION ENGINEER**

This position requires a Scientist/Engineer with BS/MS degree in Biochemical Engineering or related discipline with at least two years experience in purification of cell culture and/or recombinant microbial proteins for clinical applications in an industrial environment. cGMP and clean room experience preferred. Responsibilities include assisting in the development of GMP purification processes for pilot scale production of clinical-grade therapeutic proteins from microbial and animal cell culture. **(ID#021)**

We offer an excellent starting salary, comprehensive benefits and a working environment conducive to professional growth. For prompt, confidential consideration, forward your resume with salary requirements, Job Title and ID Job # for which you are applying, to: **Manager of Employment, Bristol-Myers Squibb Company, P.O. Box 4755, Syracuse, NY 13221-4755.**

Equal Opportunity Employer, M/F/D/V.

Bristol-Myers Squibb Company
At Procept, a rapidly growing biopharmaceutical company, we are forging new ground in the development of novel immunotherapeutic drugs to address major disease markets by combining our proprietary receptor technology with structure-based drug design methodologies.

One of our principal research programs is based on the identification of T-cell antigen receptors that play a role in the pathogenesis of specific autoimmune diseases. The result will lead to the development of a unique class of drugs which will block autoimmune response. Expansion of this program has created new opportunities for talented scientists to bring us their best ideas and creative spirit as valuable contributors to this effort.

**Protein Biochemistry**

**PRINCIPAL INVESTIGATOR/GROUP LEADER**

We seek an experienced, senior Ph.D. level protein biochemist to direct a laboratory group responsible for the purification, refolding/renaturation and structural characterization of recombinant, soluble cell-surface receptors. These novel immunoregulatory protein receptors will be utilized as targets for therapeutic drug development using structure-based computer drug design strategies. You should have 5+ years' postdoctoral experience and a proven record of management success leading a multidisciplinary team of research scientists, preferably in an industrial biotechnology setting. Candidates who are experienced in scale-up purification development or biophysical protein characterization are particularly well-suited for this outstanding leadership opportunity.

**RESEARCH ASSOCIATES-BS/MS**

We also have a new opening for an accomplished scientist seeking enhanced responsibility in a team environment. You should have 3+ years' experience in modern methods of protein purification and characterization including HPLC/FPLC, SDS-PAGE, IEF, westerns, ELISA and spectroscopy. A background investigating protein-ligand interactions would be a definite asset.

**BIOPHYSICAL PROTEIN CHEMIST**

A new opportunity exists for a Ph.D. level scientist with 2+ years' experience and a demonstrated record of achievement in studying the fundamental mechanisms governing protein folding. You will play a key leadership role in our protein receptor development programs by applying your knowledge and experience to the renaturation and functional characterization of a variety of recombinant receptor proteins expressed in microbial cells. You should have direct experience with appropriate biophysical techniques for studying protein folding and protein conformational structure such as UV, CD and fluorescence spectroscopy, microcalorimetry and molecular modelling.

**Immunology**

**SENIOR SCIENTIST/PROJECT LEADER**

We are seeking a creative immunologist/cell biologist with 3+ years of postdoctoral experience to manage research aimed at the discovery of novel immunosuppressive agents which target T cell/APC interactions. Expertise in the biology of lymphocyte adhesion molecules or MHC proteins is essential. In addition, you should have experience in one or more of the following areas: transfection/transient expression of cell surface proteins, cell or protein-based binding assays, or identification of functionally important sites on adhesion molecules. Supervisory and leadership skills are required for the management of a research project.

We invite you to apply for these positions and enjoy the following advantages: our extensive business and academic affiliations, including scientific collaborations with Harvard and MIT; our state-of-the-art facilities; and an outstanding compensation package including incentive stock options. Please forward your resume in confidence to: Mr. Jack Knox, Director of Human Resources, Procept, Inc., 840 Memorial Drive, Cambridge, MA 02139.
Leading the way to a healthier world

RADNOR, PENNSYLVANIA
Candidates with M.D., R.N., B.S./M.S. or Ph.D. degrees in appropriate disciplines are sought to staff key positions at our suburban Philadelphia location in Clinical Research, Clinical Operations, Research Quality Assurance, Biostatistics and Clinical Data Management, Regulatory Affairs, Biotechnology/Microbiology and Nutrition areas. Respond to Wyeth-Ayerst Research Personnel, P.O. Box 8299, Philadelphia, PA 19101.

ROUSES POINT, NEW YORK
This location on beautiful Lake Champlain invites candidates with B.S./M.S., or Ph.D. degrees in the appropriate scientific disciplines to inquire about our openings in Analytical Chemistry, Chemical Development, Pharmaceutical Sciences, Toxicology and Drug Safety. Respond to Wyeth-Ayerst Research Personnel, 64 Maple St., Rouses Point, NY 12979.

PRINCETON, NEW JERSEY
Candidates with B.S./M.S. or Ph.D.'s in the appropriate scientific discipline (Molecular Biology, Biology, Immunology, Pharmacology, Biochemistry, Organic Chemistry and Chemistry) are sought to staff positions in Analytical Chemistry, Cardiovascular-Metabolic Disorders, Central Nervous System Pharmacology, Drug Metabolism, Female Health/Bone Metabolism, Organic Chemistry and Inflammation/Allergy/Immunology. Respond to Employment Supervisor, Wyeth-Ayerst Research, CN 8000, Princeton, NJ 08543-8000.

At each of these sites, you will find the most advanced resources and the convenience of outstanding cultural, educational and leisure activities just minutes away.

We are proud to offer an excellent quality of work life.
Wyeth-Ayerst offers the ideal environment to spark your enthusiasm and challenge your ingenuity. In support of your research efforts, you will find responsible management and innovative colleagues, as well as state-of-the-art resources and equipment. The free-flow of scientific and technical knowledge is encouraged by frequent in-house seminars and Company-sponsored participation in conferences and worldwide symposia. Our research scientists are encouraged to establish their reputations by developing a strong record of publications.

Outstanding professional opportunities.
Company policies that support your professional growth include a job posting program, training activities and a benefits package that offers tuition reimbursement. Our Research & Development Career Ladders provide the structure to recognize education, skills and experience from the level of a recent college graduate to that of an experienced Ph.D. or M.D. research scientist who is a recognized authority in a particular field.
The Institute for Genomic Research is a new, not-for-profit research center devoted to accelerating the sequencing, mapping and functional characterization of human, animal, and plant genomes. The goal of the Institute is to bring scientists together in a collaborative environment to identify and characterize novel genes and gene families through the application of DNA sequence analysis, gene mapping, computational biology, gene expression, and model organism studies. Departmental research in the Institute is supported by a large-scale DNA sequencing facility with state-of-the-art robotics and informatics. The Institute is affiliated with two biotechnology companies developing pharmaceutical and agricultural products, and Institute scientists will have the opportunity to work with colleagues in these companies to see their discoveries through to useful products. The proximity of The Institute for Genomic Research to the National Institutes of Health and major universities in the Washington, DC/Baltimore metropolitan area offers the opportunity for additional research collaborations. We are currently recruiting scientists at all levels for the following departments.

**GENE DISCOVERY AND FUNCTION**

*Research Scientists/Post-Doctoral Fellows*

Work in collaboration with other programs to develop integrated approaches to library construction, large scale DNA sequencing, and functional characterization of genes using yeast molecular genetics, PCR technology, protein family analysis, and developmental biology. Applicants should have a strong background in molecular biology, biochemistry or genetics.

**PLANT BIOLOGY**

*Director/Research Scientists/Post-Doctoral Fellows*

Use large-scale sequencing, mapping, and reverse genetics to identify genes, analyze gene function, and characterize genomes of higher plants and fungi. Select and develop new model systems. Investigate cell-cell, host-pathogen, and environmental interactions.

**GENOME INFORMATICS**

*Research Scientists/Post-Doctoral Fellows*

Develop methods, algorithms, and software for data analysis and management, laboratory robotics, and interactive simulation and design. Experience in comparative sequence analysis, structure and function prediction, scientific databases, process control, robotics, and interactive simulation especially valuable.

**GENETIC DISEASES**

*Director/Research Scientists/Post-Doctoral Fellows*

Identify the molecular basis of human genetic diseases through the application of DNA sequencing, FISH mapping, specific cDNA selection, PCR technology, genetic and physical mapping. Applicants should have experience in molecular biology, human genetics, or DNA mapping.

**CANCER BIOLOGY**

*Director/Research Scientists/Post-Doctoral Fellows*

Develop strategies for utilizing large scale DNA sequence analysis to identify new therapeutic targets and markers of cellular transformation. Applicants should have experience relevant to the field of tumor cell biology (oncogenes, tumor suppressor genes, etc.).

**MOLECULAR AND CELLULAR BIOLOGY**

*Research Scientists/Post-Doctoral Fellows*

Focus on gene expression in prokaryotic and eukaryotic systems, the discovery of novel proteins involved in signal transduction and intracellular signaling, and transcriptional and translational control of gene expression. Applicants should have a strong background in molecular biology, neurobiology, pharmacology, or biochemistry.

The Institute offers a stimulating research environment, a competitive compensation and benefits package, and the amenities of both the metropolitan DC area and rural Maryland. Qualified applicants are encouraged to send a curriculum vitae and letter indicating position of interest to:

**Human Resources Department**

The Institute for Genomic Research
932 Clopper Rd.
Gaithersburg, MD 20878

TIGR is an Equal Opportunity Employer
RESEARCH SCIENTISTS/NUCLEAR MEDICAL TECHNOLOGISTS

Hybritech Incorporated, a subsidiary of Fortune 100 Eli Lilly and Company, is a leader in the development of in vitro and in vivo products utilizing monoclonal antibody technology. We have immediate and challenging opportunities for key scientific talent in our Research & Development divisions.

RESEARCH SCIENTIST/99m Tc CHEMIST
This individual will be a key team member in the development of antibody and peptide-based imaging agents for cancer and other disease states. The ideal candidate will have a PhD in Organic Chemistry or Biochemistry, minimum 2 years’ post-graduate experience, with expertise in Tc chemistry and synthetic organic chemistry. Experience working with proteins, peptides or chelating agents is also desirable. JOB CODE=MD/SM/9-18-92/CH

RESEARCH SCIENTIST - METHODS RESEARCH
We seek an individual who will be responsible for developing novel immunoconjugates for clinical diagnostic applications. Such conjugates may be used in a variety of immunoassay formats to improve sensitivity, or other aspects of assay performance. The successful candidate must have a PhD in Synthetic Organic Chemistry with 2-5 years of relevant experience. Experience in working with fluorescent dyes and coupling dyes to proteins, as well as knowledge of analytical techniques for characterization of conjugation reactions, is required. JOB CODE=DB/SM/9-18-92/MR

RESEARCH SCIENTIST - SKELETAL DISEASE
Responsibilities for this position include assisting in the selection and development of diagnostic markers for skeletal disease, coordination of R&D activities with external companies and collaborators, and identifying new opportunities for use of skeletal diagnostic markers. The ideal candidate will have a PhD in Bone Biology or Bone Biochemistry and 5-10 years’ related experience. Immunoassay development experience is helpful. JOB CODE=DB/SM/9-18-92/SK

APPLICATIONS SPECIALISTS
NUCLEAR MEDICINE TECHNOLOGY
We are seeking several Applications Specialists to be responsible for technical support of our in vivo product line, including customer and sales training programs, in-field education, technical support troubleshooting, and clinical marketing program support. Candidates must be registered Nuclear Medicine Technologists with 2+ years of practical, hospital-based experience. The ideal candidate will possess a Bachelor’s degree and recent work experience in a Nuclear Medicine or Radiology field support position. Overnight travel is required. JOB CODE=MD/SM/9-18-92/AS

We offer exceptional career opportunities, a stimulating environment, competitive salaries, and an excellent benefits package. For confidential consideration, please send your resume to HYBRITECH INCORPORATED, Human Resources, P.O. Box 269006, San Diego, CA 92196-9006. When sending your resume, please specify the appropriate job code and your salary history. Equal Opportunity Employer.

TEAM Hybritech INCORPORATED
POSTDOCTORAL FELLOWSHIP OPPORTUNITIES

Our research and development is in the following areas:

HEMATOPOIESIS AND CELLULAR IMMUNOLOGY
Basic research activities are directed towards understanding the cellular and molecular biology of cytokines, their receptors and their role in regulating both hematopoiesis and lymphopoiesis in vitro and in vivo.

BONE BIOLOGY & PHARMACOLOGY
Our basic research focuses on the understanding of the cellular and molecular biology of the Bone Morphogenetic Proteins (BMPs) which have been shown to effect bone formation in vivo.

DEVELOPMENTAL BIOLOGY
Basic research efforts are directed towards understanding the biology of cardiac, skeletal muscle, bone and cartilage during embryonic fetal development and during tissue repair and regeneration in the adult animal.

SIGNAL TRANSDUCTION
This area of basic research involves signal transduction, utilizing 3-D protein structural determinations by high field NMR, molecular mutagenesis, enzymology and cellular biological studies.

EXPRESSION & PURIFICATION OF RECOMBINANT PROTEINS
The Process Biochemistry group is engaged in the development of scalable and efficient processes for purifying recombinant protein therapeutics.

Examples of current postdoctoral opportunities include:

Molecular & Cellular Genetics
This laboratory focuses on the expression, processing and secretion of recombinant human proteins in Chinese Hamster Ovary (CHO) cells. The molecular biologist postdoctoral fellow will set up homologous recombination in CHO cells for targeted gene disruption of secretion and growth control genes. Cell culture experience is essential.

Microbiology
We have developed new technologies for screening complex peptide libraries for protein subunits that functionally mimic receptors and ligands. The postdoctoral fellow will utilize this technology to probe protein-protein interactions and to discover new therapeutics. Experience with microbial genetics, molecular biology, and/or protein-protein interaction is desired.

Signal Transduction
Several postdoctoral positions are available to study the biology and biochemistry of cytosolic PLA, and related enzymes: eg. characterization of the CalB domain which is also present in PKC, PLC and GAP.

Separations Sciences
The postdoctoral fellow will investigate new technologies and their mechanism of action in protein extraction and isolation. New purification technology will be assessed for their effect on protein structure and biological function.
Glaxo Inc. takes great pride in being one of the largest pharmaceutical companies in the world. The opening of our new Glaxo Research Institute, located in Research Triangle Park, NC, represents our continued commitment in the pharmaceutical industry to the discovery of drugs for unmet patient needs.

Few facilities can match the ten-building research complex that is attracting scientists from a provocative diversity of cultures and countries. To them, and to you, we offer a superb setting for energetic collaboration in pursuit of evasive solutions. The following openings are available within our CELLULAR BIOCHEMISTRY DEPARTMENT.

**GROUP LEADER • SENIOR SCIENTIST**

Selected individuals will be involved in identifying or characterizing steroid/orphan receptors and their cognate ligands. Specific expertise in these areas is preferred. Both positions require a Ph.D. in a Biological Science.

The Group Leader position requires a minimum of 5 years postgraduate experience in molecular biology and/or cell biology. Please refer to Job #9126-GL-SC on all resumes.

The Senior Scientist position requires a minimum of 0-2 years postgraduate experience in molecular biology and/or cell biology. Please refer to Job #9126-SS-SC on all resumes.

**ASSOCIATE SCIENTISTS**

The successful candidates will be responsible for all aspects of in vitro drug discovery, to include the development and implementation of receptor binding and second messenger assays (e.g. kinase, cyclase, and phospholipase) for the identification of lead compounds, as well as follow-up assays to determine selectivity and mechanism of action.

These positions require a BS or MS in Chemistry, Biochemistry, or Biology, along with an interest in pursuing all facets of receptor biology, and a commitment to scientific excellence. Experience with radioligand binding assays and/or second messenger assays is desired. Candidates should have the ability to contribute to a team effort, and a strong desire to discover important new chemical entities that will be the "breakthrough" drugs of tomorrow. Please refer to Job #9126-AS-SC on all resumes.

Join Glaxo and enjoy excellent salaries, flexible benefits, an on-site fitness center, a spirit of enthusiasm and teamwork and outstanding opportunities for career satisfaction. Equally appealing is our world famous scientific, industrial and academic community in Research Triangle Park, NC. Send your resume, INDICATING THE CORRESPONDING JOB # NOTED ABOVE, and salary history to: Human Resources Department, Glaxo Inc., P.O. Box 13398, Research Triangle Park, NC 27709. (No Phone Calls or Agency Referrals, Please.) An Equal Opportunity Employer M/F/D/V.
**BIOLOGISTS - ONCOLOGY RESEARCH**

Innovative research at Sandoz has been enhancing medicine around the world for over a century. Pioneering drugs have extended and improved the quality of life for countless individuals and revolutionized basic scientific concepts within the transplantation and mental health fields. As a result of a major expansion into oncology research, the Sandoz Research Institute seeks highly motivated and creative scientists. Successful applicants will be part of multidisciplinary teams of biologists and chemists using state-of-the-art technologies in modern, newly-opened research facilities. Position #2380.

Major responsibilities at all levels include contributions to the cancer drug discovery and development process in addition to independent research efforts in oncology. Strong communication skills and participation in team-oriented collaborations are also requisite.

**TUMOR BIOLOGIST**

Ph.D./M.S./B.S. in the biological sciences with extensive experience (2-10 years) in an industrial/academic setting using tumor models to study the effects of chemical compounds as potential chemotherapeutic agents. The candidate will be responsible for the supervision of individuals in applying tumor models in rodents as part of our preclinical drug discovery program. Position #2381.

**BIOCHEMIST/ENZYMOLIGIST**

Ph.D. in Biochemistry with postdoctoral experience (2-4 years) in an academic/industrial setting. The candidate will be responsible for the purification of novel macromolecules, including proteins, as they relate to oncology drug discovery and contribute to efforts related to enzyme assay development as part of our drug screening. The establishment of productive interactions with our medicinal chemistry, molecular biology, drug screening, and protein/peptide structure research groups is required. Position #2382.

**MOLECULAR PHARMACOLOGIST**

Ph.D./M.D. in Pharmacology with substantial postdoctoral experience (2-10 years) in an academic/industrial research setting. The candidate will be responsible for contributions to drug discovery and development efforts in oncology as it relates to intracellular drug distribution and metabolism. The candidate will also be responsible for the supervision of individuals as part of an interdisciplinary research unit dedicated to drug interaction studies at a molecular and cellular level. Position #2383.

**MOLECULAR ONCOLOGIST**

Ph.D. in Molecular Biology/Biochemistry/Cell Biology/Genetics with postdoctoral experience (2-5 years) in an academic/industrial research setting. The candidate will be responsible for identification of novel targets at a molecular level and elucidation of mechanisms central to drug intervention strategies in oncology. Will also be expected to contribute to the development of molecular biology-based drug screens in collaboration with academic partners. Broad knowledge of proteins involved in signal transduction and growth regulation as it relates to the malignant process is required. Position #2384.

**RESEARCH SCIENTISTS**

M.S./B.S. in the biological sciences with research experience (2-10 years) in an academic/industrial setting. Candidates would contribute to new and ongoing programs in oncology. Several positions are available in research units committed to drug discovery and development programs utilizing animals, tissue culture, biochemical, and molecular approaches. Specific technical skills requirements will be determined by the goals of the research units. Position #2385.

Being part of the research team at Sandoz has many advantages. Our salaries and benefits programs are designed to attract top candidates and provide them with the resources to produce their best. Comprehensive health, dental, and savings plans as well as fitness and athletic facilities are all provided at our attractive location in northwest New Jersey, which also allows for outstanding academic, cultural and outdoor pursuits. For consideration, please forward your curriculum vitae, position number, a statement of research interests and the names and addresses of three references to:

SANDOZ
SANDOZ PHARMACEUTICALS CORP
SRI Human Resources Department
Building 403/100
East Hanover, New Jersey 07936-1080
An Equal Opportunity Employer M/F/D/V
Amgen is an innovative leader in the discovery, development and marketing of human therapeutics. Our advanced research in biotechnology has resulted in such breakthrough products as EPOGEN® (recombinant human Erythropoietin) and NEUPOGEN® (recombinant human G-CSF).

In addition to exciting, unique challenges, Amgen offers our research staff strong support and opportunities for external collaboration and interaction with peers in the academic community. Moreover, our business success has enabled us to provide our people with the environment and resources to do this critical work.

Due to our success, the following opportunities are available:

RESEARCH SCIENTISTS

Candidates for these positions must have a Ph.D. and at least one year of post-doctoral experience.

PHARMACEUTICS & DRUG DELIVERY

• Position to study drug delivery systems based on tissue targeting. Experience with peptides and proteins would be helpful.

• Position requires an individual with 5 years experience in the synthesis and characterization of polymers for use as either biomaterials or drug delivery systems.

• Position requires experience in the area of protein stabilization and/or formulation of proteins for pharmaceutical use.
PHARMACOLOGY

- Position available for an Immunopharmacologist with experience with in vivo inflammation models.

NEUROBIOLOGY

- Position requires experience in the analysis of the actions of growth factors on cultured neurons.
- Position requires experience developing animal models of human neurodegenerative diseases, particularly models for Parkinson's diseases, Alzheimer's diseases or peripheral neuropathies.

STEM CELL BIOLOGY

- Cell/Molecular biologist or biochemist with experience in receptor biology, hematopoiesis growth and differentiation.

INFLAMMATION

- Cell Biologist to develop and expand projects in the discovery and characterization of molecules involved in leukocyte trafficking and activation. Experience with cellular adhesion molecules, in vitro assays and monoclonal antibodies required.

RESEARCH ASSOCIATES

Candidates for these positions must possess a Bachelor's degree in a related discipline.

MOLECULAR/CELL BIOLOGY

(Post-doctoral positions also available)

- Positions to maintain tissue culture, transfet cell lines, perform various assays and carry out ELISA studies. Must be familiar with DNA/RNA techniques, DNA cloning, DNA library construction and screening, Southern, Northern and Western blot, PCR, DNA sequencing and gene expression, Gel electrophoresis (SDS and Agarose).
- Position for individuals with experience in transgenic mice and embryonic stem cell studies.

PROTEIN CHEMISTRY

- Individual will carry out protein studies, purify and characterize proteins and perform protein sequencing, spectrophotometry, chromatography and separation techniques.

PHARMACEUTICS & DRUG DELIVERY

- An opportunity to carry out surgical techniques in animal models, perform blood assaying (for WBC and hematocrit), ELISA, SDS-PAGE and run statistical studies of results.

STEM CELL BIOLOGY

- Positions for a cell/molecular biologists or biochemists with experience in receptor biology, hematopoiesis growth and differentiation.

If you have the necessary qualifications and would like to be part of an organization that places its highest value on the contributions of its people, send your CV with position applied for to:

WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

STAFF SCIENTIST POSITIONS

The opening of the Axelrod Institute for the study of infectious disease reflects the continuing commitment of the Wadsworth Center to molecular medicine. This expansion provides exciting employment opportunities within the Center, a multidisciplinary basic research and public health laboratory. Centralized core technical facilities in biochemistry and ultrastructure, immunology, molecular genetics, and information resources ensure state-of-the-art equipment and laboratory services. The staff positions are in both research and service-related functions. Research staff are expected to develop strong independently funded programs. Participation in the graduate program of the School of Public Health of the State University of New York, which is housed at the Wadsworth Laboratories, provides opportunity for academic interaction and involvement in graduate education.

MOLECULAR, CELL AND DEVELOPMENTAL BIOLOGISTS

Candidates with expertise in molecular biology are sought to fill several positions. One opening is for an individual interested in studying regulation of gene expression in phage/bacterial or yeast systems. Candidates should have experience in microbial genetics, nucleic acid-protein interactions, genetic recombination, splicing and/or molecular evolution. A second position is available for someone interested in cell cycle regulation, membrane signaling and transport, or protein translation in mammalian cells. Expertise in protein expression and in vitro cellular reconstitution systems (especially oocyte) is desirable. A third position is available for a developmental biologist working in a non-mammalian system with well-defined genetics and a sophisticated developmental program. The Center is also interested in candidates experienced in studying the regulation of human cytochrome P450.

Search Committee Chairpersons: Dr. Carmen Mannella and Dr. Marlene Belfort

CELLULAR IMMUNOLOGISTS

The Center is particularly interested in attracting candidates in basic research to apply cellular and molecular approaches to the study of lymphocyte activation, interaction and/or regulation, and to interact with established groups in virology, cell biology, biochemistry and molecular genetics. Experience in flow cytometry and/or cytokine assays is desirable. Special opportunities are available for collaborative study pertaining to the immunobiology of HIV-1 infection and AIDS.

Search Committee Chairperson: Dr. Donal Murphy

NMR SPECTROCOPIST

Candidates should be skilled in 1D and 2D homonuclear proton NMR techniques and prepared to apply the emerging 2D, 3D and 4D 15N-13C-heteronuclear-edited NOESY methodology to biological problems in the health sciences. The incumbent may interact with Center investigators studying oligosaccharide conformation and protein folding. Interaction with the X-ray crystallography and mass spectroscopy facilities is highly encouraged.

Search Committee Chairperson: Dr. Robert Trimble

INFORMATION RESOURCES COORDINATOR AND COMPUTER SUPPORT PERSONNEL

The Center seeks an individual with an extensive background in electronic data processing/system analysis and with management skills. The selected individual will supervise system analysts, data-base management and networking specialists to: (i) develop and manage a computer core facility supporting both basic research and service functions, and network core technical facilities in biochemistry, immunology and molecular genetics; (ii) support and advise individual laboratories that provide State-mandated clinical and proficiency testing services; (iii) coordinate acquisition of hardware and software by directors of different units, to establish and maintain an integrated computational infrastructure with shared access.

Entry-level positions for network, PC and software support are also available.

Search Committee Chairperson: Dr. Joachim Frank

CLINICAL GENETICIST

A clinical geneticist is sought with experience in molecular analysis of human diseases. The position requires expertise in all aspects of DNA analytical procedures. The individual will interact with the medical community to provide diagnostic reports and regulatory oversight of clinical genetics laboratories.

Search Committee Chairperson: Dr. Kenneth Pass

MOLECULAR BIOLOGIST/BIOCHEMIST/CHEMIST FOR MOLECULAR EPIDEMIOLOGY

The Center plans to develop approaches to environmental disease using biomarkers of xenobiotic exposure. One opening is for a chemist/biochemist to investigate the chemistry, analysis, and application of DNA/protein adducts as biomarkers. Another is for a biochemist/molecular biologist to use molecular techniques to investigate the processes leading to DNA/protein adduct formation, the consequences of adduction, and/or the incorporation of adduct data into molecular epidemiological investigations.

Search Committee Chairpersons: Dr. Laurence Kaminsky

- Positions available immediately
- Salaries competitive and commensurate with level of appointment.
- Candidates with a doctoral degree and at least three years’ post-doctoral experience should send applications by October 15th with the names of three references to the appropriate search committee chairperson at:
  Wadsworth Center for Laboratories and Research
  New York State Department of Health
  Empire State Plaza, P.O. Box 509
  Albany, NY 12201-0509
POSTDOCTORAL POSITIONS

THE WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

Postdoctoral positions are available immediately in grant funded research programs in molecular biology with the following investigators at the Wadsworth Center:

- **Dr. Paul Masters. Molecular biology of coronaviruses.** Ongoing projects involving viral RNA-protein interactions, nucleocapsid assembly, mutant characterization and engineered genetics of the largest known RNA virus. Prior experience in virology or molecular biology is desirable.

- **Dr. Lorraine Flaherty. Molecular genetics of the mouse genome.** Characterization, mapping and cloning of mouse genes which, when mutated, result in abnormalities such as polycystic kidney disease, deafness, cerebellar dysfunction, and facial malformation.

- **Dr. David Anders. Molecular genetics and biochemistry of human cytomegalovirus DNA replication.** Candidates should have training in either molecular biology, virology, protein biochemistry, or eukaryotic expression systems.

- **Dr. Marlene Belfort. Mobile self-splicing introns.** Analysis of self-splicing RNAs and DNA-based intron mobility in prokaryotes using genetic and biochemical approaches. Experience in protein and/or nucleic acid chemistry, genetics desirable.


The Wadsworth Center is a well-staffed research institute with centralized, state-of-the-art core resources in molecular genetics, immunology, biochemistry, electron microscopy, structural analysis, and information/computer sciences. This unique facility houses graduate programs of the Department of Biomedical Sciences of the State University of New York at Albany. Albany offers the cultural and recreational advantages of an upstate New York community in proximity to the Adirondacks and the Berkshires, as well as ready access to major metropolitan areas (New York, Boston, Montreal).

Salaries competitive and commensurate with experience. Interested applicants should send curriculum vitae and the names of three references to the appropriate investigator at:

Molecular Genetics Program
Wadsworth Center for Laboratories and Research
New York State Department of Health
Empire State Plaza, P.O. Box 509
Albany, NY 12201—0509
THE REPLIGEN REPORT

Cambridge, Massachusetts, home to Harvard and MIT and just across the Charles River from Boston, is the site of one of the country's largest concentration of biotechnology firms. REPLIGEN, located in East Cambridge, is a major player in this industry and area and has always been noted as a company on the leading edge in research committed to healthcare. Over the past year, results from our research have allowed us to identify product candidates for the prevention and treatment of AIDS and for the treatment of cancer and acute inflammation. In addition to several new research projects in the inflammation area, we have also recently begun clinical trials on our anticancer compound. The years ahead promise many new and exciting challenges for people seeking a research environment that rewards initiative and recognizes achievement. If you're looking for a biotech company that's going places, join us today.

In addition to the positions listed below, we have opportunities for experienced individuals with a BS, MS or PhD in a Biological Science, Chemistry, or Chemical Engineering.

GROUP LEADER/PRINCIPAL INVESTIGATOR
This person will direct the development and scale-up of the purification process of one of our lead E.coli expressed recombinant proteins for clinical applications. Requirements are a PhD and 5 years' experience in scale-up purification of recombinant proteins expressed in E.coli, industrial process development and knowledge of cGMPs. Att: Joan Curtice

ASSOCIATE SCIENTIST
We are seeking a person to be responsible for the fermentation development and scale-up of production of recombinant proteins in E. coli; operation of bench top fermenters, media optimization, design of control strategies, and evaluation of protein expression levels. Past experience with batch fed fermentation of recombinant E. coli is highly desirable. A PhD in Biochemical Engineering or Microbiology; or a BS/MS with at least 4 years' experience in fermentation development is required. Att: Joan Curtice

ASSOCIATE SCIENTIST
We are seeking a candidate to develop stable formulations for REPLIGEN's monoclonal antibody products. Conduct pre-formulation characterization studies; set up stability studies and provide technical support to manufacturing for formulation and filling of final products. A PhD in Pharmaceutical Science or related discipline with 1-2 years' experience is desirable. Att: Joan Curtice

ASSOCIATE SCIENTIST
This person will conduct the complete structural characterization of clinical monoclonal antibody products. Emphasis will be on carbohydrate composition analysis, identification of glycosylation sites and other site-specific modifications by peptide mapping. Broad experience with chemical enzymatic digestions and/or mass spectrometry experience a plus. A PhD plus 0-3 years' experience required. Att: Ed Bocko

ENZYMOLIST/BIOCHEMIST
Amira, Inc., a subsidiary of REPLIGEN Corporation, is a dynamic and rapidly growing biotechnology company founded by scientists from MIT and Harvard Universities. Amira's initial discoveries include small molecule therapeutics that inhibit the growth of neuroendocrine-derived tumor cells and block the replication of DNA viruses.

Currently, we are seeking for a talented Enzymologist/Biochemist who can contribute to the evaluation of mechanisms of action of identified lead compounds. Knowledge in the area of signal transduction and intermediary metabolism is desirable. Applicants must have a PhD and appropriate postdoctoral experience. Att: Barbara Fleming

Repligen offers competitive salaries, benefits and equity participation. Please submit or FAX a cover letter, CV and references to the appropriate recruiter (as noted above) at: Repligen Corporation, One Kendall Square, Building 700, Cambridge, MA 02139. FAX: (617) 494-1786. An Equal Opportunity Employer, M/F/D/V.

Visit us at one of the following job fairs/conferences:
9/25 - 9/26 Career Connection - Cambridge, MA
10/2 - 10/3 Career Connection - La Jolla, CA
11/16 and 11/17 American Society for Cell Biology - Denver, CO
At Johnson & Johnson Medical Inc., we've made it our business to provide the highest quality products to the health care industry. Our continued growth presents a challenging opportunity for a creative individual to play a leading role in the identification of new product opportunities in hemostasis.

**SR. RESEARCH ASSOCIATE**

**Hemostasis Product Development**

As a Product Development Scientist, the selected candidate will participate in technology assessment, design and conduct appropriate in vitro and in vivo studies, and develop formulations geared towards novel hemostasis products for use in medical and surgical procedures.

Qualified applicants should possess a Ph.D. in Biochemistry or related discipline and have a minimum of three years experience. Extensive knowledge of the molecular basis of blood coagulation is essential, as are excellent communication skills and the desire to work and succeed in a multi-disciplinary team environment. Experience in product development or drug discovery with supervisory responsibility is highly desirable.

We offer an excellent benefits package, competitive salary, as well as a professionally challenging environment. Candidates interested in this opening in the Dallas/Fort Worth area should forward resume with salary history, in complete confidence to: Johnson & Johnson Medical Inc., Attn: Human Resources, 2500 Arbrook Blvd., Arlington, TX 76014.

An Affirmative Action Employer, M/F/D/V
13 November Issue
Cover Story in SCIENCE

In a first-time cover story, the 13 November issue of Science explores the complex problems and obstacles facing minorities as they work and compete in the scientific community.

HIGHLIGHTS INCLUDE:

AFFIRMATIVE ACTION PROGRAMS
CAREER PROFILES
BARRIERS FACING MINORITIES
THE SEARCH FOR SOLUTIONS

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Don't miss this first time advertising opportunity!
Contact Janis Crowley at (212) 496-7704.

Space Reservation Deadline: Tuesday, October 27
Regeneron Pharmaceuticals, Inc. is committed to the development of new strategies, especially the use of novel nerve factors, for the treatment of devastating neurological disorders such as Alzheimer’s, Parkinson’s, Huntington’s and Lou Gehrig’s disease. Several positions are available for experienced, career-oriented Research Assistants:

**RESEARCH ASSISTANT**

with experience in stereotaxic surgery and the evaluation of surgical and chemical models of neurodegenerative diseases/brain injury to assist as a team member in studies using behavioural, biochemical and histological approaches to evaluate novel therapeutic agents in vivo. Experience in HPLC, neurochemical assays, behavioural studies, and ligand binding assays is desirable. Familiarity with image analysis systems and routine microscopy is preferred. BIN TA.

**RESEARCH ASSISTANT**

with experience in primary neuronal tissue culture and biochemical/neurochemical assays to assist in vitro studies evaluating the biological properties of novel neuronal growth factors. Specific experience in radioenzymatic assays, mRNA and protein analysis and immunocytochemistry of cultured cells is desirable. BIN VW.

**RESEARCH ASSISTANT**

A B.S. Degree in Biology is required along with 1-2 years’ experience, preferably in Histology (Neurohistology a plus). Exposure to molecular biology techniques, in situ hybridization, and work with radio and non-radio-labeled techniques are prerequisites. BIN SW.

Regeneron’s modern facility is located on an expansive wooded campus in Westchester County, 25 miles north of Manhattan. The highly collaborative and supportive Regeneron community offers considerable scientific and professional growth potential and a competitive compensation package. Please send your resume and a cover letter indicating your research experience and interests, immediate career goals, desired starting date, salary expectations, and indicating appropriate Bin #, with the names of 2 or more references to: Human Resources Dept., Regeneron Pharmaceuticals, 777 Old Saw Mill River Road, Tarrytown, N.Y. 10591-6707.
Synergen is a research-based biopharmaceutical company engaged in the discovery, development and production of protein-based human pharmaceuticals. Synergen's recombinant technology focuses on naturally occurring human proteins that regulate body processes associated with disease.

Synergen is working to further scientific understanding of how the human body responds to inflammation, injury and disease, in order to produce pharmaceuticals that reduce mortality and help people who have illnesses that currently have no satisfactory treatment.

We are currently conducting Clinical Trials, Phases I through III, for several promising compounds and are now ready to manufacture in our new commercial scale manufacturing plant.

This is difficult, challenging and exciting work. Highly qualified people are drawn to Synergen, attracted by the science, energy, values, and informal collegial work environment.

Synergen is located in Boulder, Colorado, a university community just 30 minutes north of Denver and an hour from Rocky Mountain National Park. The area's mild sunny climate fosters an active, casual lifestyle in a community that respects education and technology.

Currently, and in the near future, staffing needs include:

- **Scientists and Research Associates**
  - Discovery
  - Formulation
  - Pharmacology
  - Pharmacokinetics
  - Toxicology
  - Analytical Biochemistry
  - Process Development

- **Manufacturing**
  - Director
  - Engineer

- **Clinical Research**
  - Biostatistician
  - Medical Writers
  - Data Management

To be considered for a position at Synergen, please send your resume/C.V. to: **Employment Manager, Box SCS, Synergen, Inc., 1885 33rd Street, Boulder, CO 80301.** We are an Equal Opportunity Employer.
Public Announcement
Regarding a
New Research Project on
DNA Analyses for Photosynthetic Microorganisms and
Information Processing for DNA
Announced by the New Energy and Industrial Technology
Development Organization on September 17, 1992

In order to promote the research of global environmental technology and industrial technologies, the New Energy and Industrial Technology Development Organization (NEDO) would like to inform all interested companies and research organizations regarding the research project described below. This new project is being undertaken as part of the Research and Development Program on Industrial Technology for Protection of the Global Environment and The National Research and Development Program of the Ministry of International Trade and Industry of Japan.

Theme of the Research Project
“DNA Analyses for Photosynthetic Microorganisms and Information Processing for DNA”

Outline of the Research Work to be Entrusted
In order to contribute to the solution of global environmental problems by studying the carbon dioxide fixation function of microorganisms, NEDO plans to conduct the research project on “DNA Analyses for Photosynthetic Microorganisms and Information Processing for DNA”

The entrusted research work relates to “technologies for effectual DNA base sequence analyses of photosynthetic microorganisms and for systematic information processing of DNA and its related compounds.”

Procedures for Application
(1) Qualification Criteria
All companies or research organizations who meet the following qualification criteria may submit an application to participate in the above project:
1. The applicant must have previous research and development experience in the field covered by or related to the project and possess the organizational structure, human resources and research facilities required to carry out the project work.
2. The applicant must be in sound financial condition and have the ability to manage its finances and facilities as necessary to smoothly carry out the project work.
3. The applicant must be able to comply with NEDO’s instructions, if such are necessary, to fully carry out the project work.
4. The applicant must have attended the explanatory meeting held by NEDO as set forth below or been represented at the meeting by a responsible agent or representative who is capable of accurately conveying the contents of the meeting in detail.

(2) Explanatory Meeting
An explanatory meeting will be held on the date shown below in order for NEDO to fully explain the details of the project’s research work to be entrusted and the application documents to be submitted. All companies or research organizations who are interested in submitting an application to participate in the project are required to attend this meeting or to send an agent or representative to attend on their behalf. Japanese will be the only language used during the meeting.

Date: Friday, October 2, 1992
Time: 14:00 to 15:00
Place: NEDO’s Head Office
Sunshine 80 Building, 28th Floor, Room 28-11
1-1, Higashi-Ikebukuro 3-chome
Toshima-ku, Tokyo 170

(3) Further Information
For further information regarding the research work to be entrusted under the above project, please contact NEDO by telefax as follows:

New Energy and Industrial Technology Development Organization
Contract Division, Accounting Department
Sunshine 60 Building, 28th Floor
1-1, Higashi-Ikebukuro 3-chome
Toshima-ku, Tokyo 170 Japan
Telex: 03-5992-1184
We’re Looking At The Future From Every Angle.

With an exceedingly diverse research and technology base GEO-CENTERS INC. is meeting the future head on. We’re making exceptional advances in fields such as immunology, molecular biology, and physiology. As a leader in medical technology, flexibility is the key to our success. Market demand, financial stability and technological strength we’ve got every angle covered for continued growth and outstanding technical achievement.

MOLECULAR BIOPHYSICIST
(Dayton, OH) - CODE 2270

A POSTDOCTORAL LEVEL scientist is sought to support a research effort designed to apply molecular biological and genetic methods to toxicological studies. The successful candidate will be a junior level cytogeneticist with experience in mammalian transplantation and cell culture. Responsibilities include the design and execution of research protocols, data analysis, and manuscript preparation. Ideal candidates should have a Ph.D. in Molecular Biology or a related field and a minimum of 2 years of post-graduate experience in a research laboratory. Excellent communication and interpersonal skills are essential.

COMPUTATIONAL CHEMIST
(Dayton, OH) - CODE 2271

A POSTDOCTORAL LEVEL scientist is sought to assist in establishing an aggressive program in computational chemistry specifically directed towards predictive toxicology. The goal of this program is to develop the abilities to perform predictive toxicology computations on Air Force and DoD relevant chemicals to assess human and environmental risks. To qualify, the candidate should have a Ph.D. in a relevant field, with 1-3 years of demonstrated practical experience in computational chemistry with emphasis in quantitative structure-activity relationships (QSAR) relating to biological activity and pharmacokinetic descriptors. The successful candidate will also be required to provide technical assistance and support in computational chemistry to other technical staff.

MICROBIOLOGIST
(Frederick, MD) - CODE 2272

A M.S./Ph.D. level candidate is sought to assist in the identification, isolation, and characterization of enzymes for bioremediation applications. The successful candidate will have an appropriate educational background, with demonstrated practical experience in culture methods, enzyme characterization, and possess extensive hands-on experience with HPLC and FPLC methods and instrumentation.

BIOCHEMIST
(Frederick, MD) - CODE 2273

A M.S./Ph.D. level candidate is sought to assist in the synthesis and characterization of proteins, peptides, biopolymers, catalysts, biological probes, and other model compounds for hazard studies. The successful candidate will possess extensive protein synthesis experience, as well as demonstrated skills in sequencing methods and instrumentation.

MICROBIAL ECOLOGIST
(Washington, DC) - CODE 2274

A Senior Staff level candidate is sought to assist in the development of a research effort to investigate enzymatic degradation of hazardous materials. The successful candidate will possess a Ph.D. in Microbial Ecology or Microbiology, with five years of specific experience in the purification and characterization of proteins for bioremediation applications. The candidate will be expected to have an extensive relevant publication record.

PHYSIOLOGIST
(Washington, DC) - CODE 2268

A M.S./Ph.D. level candidate is being sought to conduct research whose emphasis will be on the evaluation of novel therapies to protect or improve cardiovascular and organ functions in septic shock, and the development of suitable treatment modalities. The ideal candidate will possess a minimum of three years of relevant R&D experience, with specific expertise in the development of new methods for monitoring tissue perfusion and oxygenation.

MOLECULAR BIOPHYSICIST
(Washington, DC) - CODE 2269

A M.S./Ph.D. level candidate is being sought to conduct research in the evaluation of the abnormalities occurring in endothelial and smooth muscle cells in septic shock, with a concentrated effort in determining alteration in gene expression in this system. The successful candidate will possess a minimum of three years of relevant R&D experience, with specific knowledge of the techniques for production of probes for antisense and in situ hybridization, gene cloning, and sequencing.

RESEARCH SUPPORT STAFF
(Various Locations) - CODE 2240A

B.S./M.S. level staff members are being sought to support our research and development efforts throughout the country. Fields of specific interest include molecular biology, microbiology, physiology, and biochemistry. Candidates should possess a minimum of two years of post-graduate practical experience. Applicants should specify their geographic preferences, if any, and their specific fields of interest and expertise.

GEO-CENTERS, INC., offers highly competitive salaries, a generous benefit package and relocation assistance. U.S. CITIZENSHIP OR GREEN CARD IS REQUIRED. Applicants selected may be subject to a security investigation and must meet eligibility requirements for access to classified information. Candidates should forward their qualifications, salary requirements and references to: GEO-CENTERS, INC., 10903 Indian Head Highway, Fort Washington, MD 20744, Attn: Deborah Hall-Greene/Code GEO-CENTERS, INC. is an Equal Opportunity/Affirmative Action Employer. (Principals only.)
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1993
McKNIGHT NEUROSCIENCE SCHOLARS AWARDS

The McKnight Endowment Fund for Neuroscience is soliciting applications in preparation for awarding McKnight Scholars Awards which commence July 1, 1993. The McKnight Scholars Awards were initiated in 1976 to stimulate research in neuroscience especially as it pertains to memory and, ultimately, to a clearer understanding of diseases affecting memory. Over the years this mandate has been interpreted broadly to permit support of work in many relevant areas of neuroscience. The McKnight Endowment Fund for Neuroscience administers its awards programs through a Board of Directors comprised of eminent scientists and representatives from the Board of Directors of The McKnight Foundation which is the source of the Endowment Fund.

Up to six 1993 McKnight Scholars will be selected from applicants who hold the M.D. and/or Ph.D. degree and have completed formal postdoctoral training. Candidates should have demonstrated meritorious research in areas pertinent to the interests of The McKnight Endowment Fund for Neuroscience and should be in the early stages of establishing their own independent laboratory and research career. Candidates must be citizens or lawful permanent residents of the United States. Award payments will be made directly to a sponsoring institution which must be located within the U.S. Each McKnight Scholars Award provides $80,000 annually in 1993, 1994 and 1995. Funds may be used in any way that will facilitate development of the Scholar's research program. Funds may not be used for indirect costs.

Applications will be evaluated by a review committee which will recommend to the Board of Directors of the Endowment Fund candidates for appointment. Award announcements will be made on or before May 15, 1993.

Potential applicants should write or call the office of The McKnight Endowment Fund for Neuroscience to request application forms and guidelines. Completed applications must be postmarked no later than January 2, 1993.

THE McKNIGHT ENDOWMENT FUND FOR NEUROSCIENCE
600 TCF Tower • 121 South Eighth Street
Minneapolis, Minnesota 55402
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