

### Database of 3-D Molecular Structures

The *Comprehensive Medicinal Chemistry Drug Compendium* (CMC-3D) is an electronic database searchable based on three-dimensional properties. CMC-3D is designed to help pharmaceutical researchers examine correlations between biological activity and geometric properties. Such investigations may help researchers hypothesize, test, and refine pharmacophores (a specific set of structural, electronic, and geometric properties a molecule is thought to require to show a specific pharmacological activity). Molecular Design. Circle 444.

### Fluids Spectrometer

The RFS II is a computer-controlled fluids spectrometer that measures the complex viscous and elastic properties of solutions, emulsions, gels, and suspensions. It is controlled though an IBM Personal System/2. Operating in a dynamic test mode, the RFS II can perform strain (range of 0.5 to 500 milliradians), time, and frequency (0.001 to 100 rad/s) sweeps. Operating in a steady test mode, it can perform shear stress growth, relaxation following steady shear, and sweeps over a user-selected shear rate range. The software includes a test sequencing feature that allows test stringing, quick changing of test parameters, and menu customization. Rheometrics. Circle 473.

### Monoclonal Antibodies

Rat anti-murine B220 surface glycoprotein monoclonal antibody reacts with the 220-kD cell surface antigen on B cells and a subset of bone marrow cells that includes B cell precursors. A rat monoclonal is specific for mouse granulocytes and mature neutrophils. Monoclonals for cell immunophenotyping include a CD34 antibody (CBL 123) with a cellular distribution restricted to some myeloid cells and endothelium; CD44

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

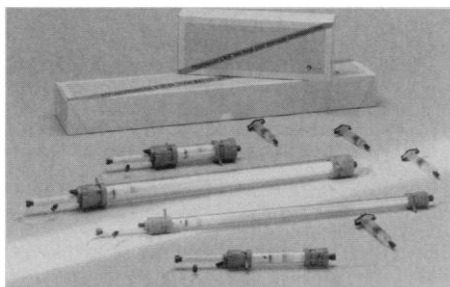
antibody (CBL 154), which is specific to a non-lin antigen shared between T cells and granulocytes; CD56 antibody (CBL 159), which recognizes the neural cell adhesion molecule; and CD71 antibody (CBL 137), which is an anti-transferrin receptor antibody that can be used for the study of cellular proliferation and lymphocyte activation. New antibodies in the cytokeratin area include antibodies to Neurofilament 68, 160, and 200 kD. Cymbus Bioscience. Circle 483.

### Image Analysis Workstation

The VIDAS (Video Digital Analysis System) workstation provides automatic digital processing and analysis of images acquired on-line from video cameras, photographs, videocassette recorders, transmission electron microscopes, scanning electron microscopes, and other image sources. The system's gray level and binary processing capabilities make it useful for a wide variety of applications including biomedical investigations, materials evaluation, and structural analysis involving particle size analysis. VIDAS features a 3-megabyte frame grabber (a device for analog-to-digital conversion). VIDAS's variable frame memory allows users to control the number of images stored by the frame grabber. Users can correct for shading, increase contrasts, detect edges, and use convolution filters on successive frames, maintaining all previously edited frames for reference. Carl Zeiss. Circle 464.

### Affinity Medium for Biomolecule Analysis

NHS-activated Superose is an affinity medium for analysis and purification of biomolecules. The activation is done by *N*-hydroxysuccinimide, which provides a product with low ligand leakage. NHS-activated Su-



perose makes possible the complete automation of both the ligand coupling and the chromatographic run, from equilibration and sample application to fraction collection and column cleaning. Pharmacia LKB Biotechnology. Circle 478.

### Oligonucleotide Labeling Kits

British Bio-technology has added to its molecular biology products a number of kits for radiolabeling oligonucleotide probes to a high specificity. The 3' Oligonucleotide End Labeling Kit and the 5' Oligonucleotide End Labeling Kit can be used to label probes for use in Southern (DNA), Northern (RNA), colony, plaque, in situ, and dot blot hybridization. The kits contain all reagents needed to end-label a probe and a control oligonucleotide to test the efficiency of the reaction. British Bio-technology. Circle 453.

### Hot Plate Magnetic Stirrer

The Mistral Pyro-Magstir, Model 1268, is a magnetic stirrer featuring a maximum temperature of 320°C and a maximum speed of 1200 rpm. Model 1268 accommodates up to six 1000-ml flasks or beakers. Lab-Line Instruments. Circle 477.

### Data Acquisition Program for Electrophysiology

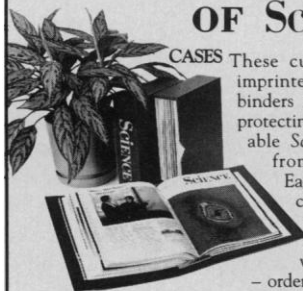
Spike is a multi-channel data acquisition and analysis software program for whole cell and intracellular electrophysiology experiments. Spike can stimulate cells and record changes in membrane potential or current and spike activity. On-line analysis of incoming data allows simultaneous display of both the raw and analyzed data. Spike can generate a results table for all data gathered from which many kinds of graphs can be generated. Spike runs on IBM PC-ATs or compatibles. Medical Systems Corp. Circle 449.

### Literature

*Vacuum* is a 250-page catalog featuring technical data and specifications on a line of mechanical rotary pumps, oil-free pumps and systems, turbomolecular pumps, pressure and flow control instruments, thin-film deposition systems and components, leak detection systems, laboratory freeze dryers, and more. Edwards High Vacuum International. Circle 434.

*A Guide to the Selection of Oxygen Analyzers* is a 13-page booklet that provides a history of the discovery of oxygen and the development of measurement techniques and that discusses the advantages and disadvantages of various oxygen measurement technologies used today. Delta F Corp. Circle 438.

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# Prize Competition

announced by the

## Anna Monika Foundation

for the investigation of the biological substrate and functional disturbances of depressions by approval of the Minister of the Interior of Nordrhein-Westfalen, Düsseldorf, 9th June, 1965.

The Foundation announces the following prizes:

<b>First Prize</b>	<b>US-Dollar</b>	<b>15.000,-</b>
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<b>Third Prize</b>	<b>US-Dollar</b>	<b>5.000,-</b>

preferably for studies of biochemical, histological, neurophysiological, neuropathological, psychopharmacological, psychiatric or psychosomatic nature. The studies should be carried out in close cooperation with a psychiatric clinic, an university or an equivalent scientific institution. As fast as possible, the papers should give information about recent advances in knowledge that should be helpful in promoting treatment and would open new paths of progress. The papers may be written in German, French or English and should be submitted to the Chairman of the Committee, Prof. H. Helmchen, Berlin/Germany. Besides hitherto unpublished studies, papers published in the past two years in an international professional journal may also be submitted. Deadline for submission to the Committee is 30th September, 1990. To help the Committee to come to a speedy decision, it is requested that a maximum of three publications in four copies as well as a summarizing report (approx. 600 words) of the studies submitted for the competition should be included. Prizes will be awarded until end of July, 1991. If, in the opinion of the Committee, no papers of sufficient merit are submitted, it reserves the right to present no award. Prizes and their amounts will be awarded according to the merits of the study in question. Subject to the committee's decision, each prize can be divided between two papers.

### The Committee of Judges:

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**SCIENCE** publishes each Friday, except the last Friday of the year, and is mailed on issue date. Personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

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**DEADLINE:** Thursday, 10 a.m., 2 weeks prior to issue date. Advertising is accepted only in writing.

**POLICIES:** All classified ads will be edited and typeset according to **SCIENCE** style guidelines. NO ABBREVIATIONS. Any deadline for applications stated in ad must be at least 2 weeks after date of issue in which ad appears.

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**RATE:** \$41 per line, \$410 minimum, per week. One line equals 52 characters and spaces; centered headings equal 32 characters and spaces per line. No charge for use of blind box number. No agency commission for ads less than 40 lines. To **ESTIMATE** ad cost, structure ad copy on a 52-character line; include any desired heading on 32-character lines. Each line of heading, one line of white space between heading and body of ad, and all partial lines (including centered reply information, if desired) are counted as full lines. Multiply total number of lines x \$41 = approximate cost of ad, per week. (This is an approximate cost **ONLY**. Allow for variation between estimated lines and actual typeset lines and resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment. **SCIENCE** cannot provide proofs of typeset ads.)

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**SITUATIONS WANTED ADS:** As a service to AAAS members in good standing, **SCIENCE** offers free placement of Situations Wanted ads for individuals seeking full-time or part-time employment. A blind box may be used. Ads must be submitted in writing with text of 20 words or less, not including address or box number, and are limited to two insertions per member in each calendar year. Please enclose **SCIENCE** mailing label including AAAS membership number when submitting ad.

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Address ad copy or requests for information to:

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Applicants should read Positions Open ads carefully in order to submit all required material when responding, and should especially check for any stated deadline for receipt of applications. **SCIENCE** encourages applicants for positions to investigate employment laws, nondiscrimination policies, visa requirements, and cultural differences in the country advertising for employees.

To reply to a blind box ad, address correspondence to:

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## POSITIONS OPEN

### ASSISTANT PROFESSOR, PHARMACOLOGY

Ladder faculty position will be filled in the area of structural analysis of receptor drug or ligand interaction. Focus on some aspect of potential cancer therapy, such as oncogenes, growth factor receptors, or signal transduction mechanisms is required. A departmental molecular modeling and computational resource has been established and high field NMR and x-ray crystallography facilities are accessible to an appropriately qualified individual. Applications submitted by 1 June 1990 should include curriculum vitae, description of research interest, and the names of at least three referees and be sent to: **Dr. R. E. Handschumacher, Chairman, Search Committee, Department of Pharmacology, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510. Yale University is an Equal Opportunity/Affirmative Action Employer.**

Two **ASSISTANT PROFESSORS IN BIOLOGY.** Available 15 August 1990. Ph.D. required; tenure track. Both appointees will have teaching and laboratory responsibilities in an introductory biology course, advise undergraduate and graduate students, and establish an active research program. Position (i): Animal ecology. Teach an upper division course; e.g., general ecology, vertebrate zoology. Position (ii): Teach an upper division course in his/her specialty; e.g., animal anatomy and development or histology. Submit curriculum vitae, transcripts, statement of research interest, three letters of recommendation, and the names, addresses, and telephone for two additional references to: **Jim Schmulbach, Search Committee, Biology Department, University of South Dakota, Vermillion, SD 57069. Telephone: 605-677-5211. Screening begins 21 May 1990. Equal Opportunity/Affirmative Action Employer.**

Anatomy Department seeks **ASSISTANT/ASSOCIATE PROFESSOR** with a strong independent research program to teach general and oral histology for dental and graduate students. Research in craniofacial biology/development and expertise in molecular biology techniques are desirable but not required. Starting date is negotiable. Send curriculum vitae and names of three references to: **Dr. A. N. Taylor, Baylor College of Dentistry, 3302 Gaston Avenue, Dallas, TX 75246. Equal Opportunity Employer.**

### BIOANALYTICAL CHEMISTRY PHARMACOKINETICS

Rorer Central Research, a division of Rorer, Inc., a worldwide ethical pharmaceutical company, has an immediate opening for a **SENIOR RESEARCH SCIENTIST** in the R&D/Drug Disposition Department.

The successful candidate will be responsible for establishing a protein analytical group within the Bioanalytical Chemistry/Pharmacokinetics Department. Incumbent will oversee and supervise the group in the development of novel enzyme assays for the measurement of a variety of proteins in biological fluids. Interested individuals should have a Ph.D. in biochemistry or analytical chemistry with 3 to 5 years of relevant industrial experience, or an M.S. with 5 to 10 years of experience. Knowledge of computer tools and supervisory experience would be an asset. Good communication and problem solving skills required.

Rorer Central Research offers competitive salaries, company-paid benefits, and excellent potential for professional recognition and growth. Currently we are located in King of Prussia, Pennsylvania, but soon will be moving to our new facility in Collegeville, Pennsylvania.

Qualified candidate should respond to: **Position No. 89R-169, Rorer Central Research, 640 Allendale Road, King of Prussia, PA 19464. Equal Opportunity Employer.**

**BIO SAFETY.** The Division of Environmental Health and Safety at the University of Florida is seeking an individual to coordinate its biosafety program. The position requires a B.A. (biology, biosafety, environmental engineering) plus 2 years of experience; M.S. or Ph.D. preferred. Training and experience in molecular biology is required. Salary is negotiable to \$45,000 per year and a liberal benefits package is included. Please submit a résumé, the names of three references, and a salary history, in confidence, by 4 May 1990 to: **Joseph J. Wnuk, Jr., Recruitment Coordinator, 446 Stadium West, University of Florida, Gainesville, FL 32611.** All searches are conducted in accordance with Florida's open meetings and records laws. We hire only U.S. citizens and lawfully authorized alien workers. **Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**ASSISTANT/ASSOCIATE PROFESSOR, ANATOMY.** Applications are invited for a full-time, tenure-track faculty position. The position will be available in September 1990. Applicants must have a doctoral degree and appropriate postdoctoral experience. The applicant will be expected to develop a research program with external funding and participate in teaching of dental, graduate, and postgraduate students. The department has research programs in bone, muscle, and joint structure/function in the craniocervical area. Candidates with research interests in these as well as those that might bring new strengths to the department are encouraged to apply. Application deadline is 15 May 1990. *Women and minorities are encouraged to apply.* Applicants should send curriculum vitae, statement of research interest, and the names of three references to: **Dr. James H. Fuller, Chair, Search Committee, Department of Oral Anatomy, College of Dentistry, M/C 829, The University of Illinois at Chicago, Chicago, IL 60612. Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ASSISTANT PROFESSOR, VIROLOGY.** Full-time research faculty position immediately available at the University of Virginia Health Sciences Center. Nontenured 2-year appointment at assistant professor level. Focus on detection of picornavirus infections. Ph.D. and/or M.D., experience in hybridization techniques. Salary commensurate with qualifications. Contact: **Frederick G. Hayden, M.D., Department of Internal Medicine, Box 473, University of Virginia Health Sciences Center, Charlottesville, VA 22908.**

**RESEARCH ASSISTANT PROFESSOR OF INTERNAL MEDICINE.** Two nontenure-track positions to conduct individual and collaborative research in experimental and clinical mapping of electrical cardiac fields. Position requirements include a doctoral degree in electrical engineering, computer science, or one of the biomedical sciences. Additionally, applicants must have demonstrated experience and expertise in (i) mapping of electrical cardiac fields, (ii) advanced systems and applications of programming, and (iii) computer modeling. Evidence of previous independent research is desirable. Applications must be postmarked by 19 May 1990. Applications received after that date may be considered if no qualified candidates have applied by that time. Send résumé and references to: **Dr. M. I. Burgess, CVRTL, Building 100, University of Utah, Salt Lake City, UT 84112. An Equal Opportunity/Affirmative Action Employer.**

**TARGETED DRUG DELIVERY POSITION.** A full-time tenure-leading position is available in the University of Nebraska College of Pharmacy for a faculty member with interests in the biological effects of drugs and chemicals who will provide expertise in biological approaches to targeted drug delivery. Biological approaches are broadly defined, but not limited, to include the areas of immunology, microbiology, molecular biology, physiology, toxicology, and pharmacology. Applicants with an earned doctorate and established research and funding record are sought. Send curriculum vitae and names of three references to: **Chair, Search Committee, Position #9-6095, Department of Pharmaceutical Sciences, College of Pharmacy, University of Nebraska Medical Center, Omaha, NE 68198-6025. The University of Nebraska is an Affirmative Action/Equal Opportunity Employer.**

### BIOLOGICAL ANTHROPOLOGISTS

The Primate Biology Group of Northwestern University's newly formed Department of Cell, Molecular, and Structural Biology at the Medical/Dental Schools is seeking applications from anthropologists and primate biologists. Level and start date are flexible, and applications are being accepted immediately. Research interests may be in any area of primate or human biology; possible specializations include paleoanthropology, molecular evolution, functional anatomy and biomechanics, growth and development, and craniofacial biology. The successful candidate will participate in a team-taught course in human gross anatomy (or other first-year medical/dental course). Send curriculum vitae, statement of research interests, and reprints to: **Dr. Brian Shea, CMS Biology, Northwestern University, 303 East Chicago Avenue, Chicago, IL 60611.**

*Northwestern University is an Equal Opportunity/Affirmative Action Educator and Employer and invites applications from all qualified individuals. Applications from women and minorities are especially sought.*

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## SENIOR BIOMEDICAL MASS SPECTROMETRIST

The department of Drug Metabolism and Pharmacokinetics is seeking highly motivated candidates for a Senior Research Scientist position. This individual will work in the Biomedical Mass Spectrometry Group as a member of interdisciplinary teams involved with drug metabolism, disposition and bioanalytical research projects. These projects will include, but not be limited to, drug metabolite structure elucidation, both with and without the use of radioisotopes, and the development of specific and sensitive methods for the quantitative measurement of drugs and metabolites using mass spectrometry. This position represents a unique challenge to the qualified mass spectrometrists interested in conducting innovative and significant research in the field of drug metabolism.

A Ph.D. level scientist is required, preferably with experience on a TSQ-70 or equivalent instrument. Greatest consideration will be given to candidates with experience in LC/MS-MS, FAB/MS-MS and Electrospray-MS. Familiarity with current separations and chromatographic techniques and their application to biological matrices is desirable.

To apply, please send your resume and salary history to: **RS-040, Sterling Research Group, A Division of Sterling Drug Inc., 81 Columbia Turnpike, Rensselaer, New York, 12144.** An Equal Opportunity Employer M/F/H/V.



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## POSITIONS OPEN

**BOTANIST/ECOLOGIST** sought for 1990-1991 academic year. To teach courses in botany, ecology, general biology. **INSTRUCTOR OR ASSISTANT PROFESSOR**, depending on degree; Ph.D. and teaching experience preferred. Successful candidate may apply for tenure-track position opening 1991-1992. Send curriculum vitae, transcripts, and three letters of reference by 15 May 1990 to: **Dr. James Perham, Chairman, Department of Biology, Randolph-Macon Woman's College, Lynchburg, VA 24503-1526.** Equal Opportunity Employer.

### CHAIRPERSON DEPARTMENT OF ANATOMY

Applications and nominations are currently being accepted for this position. Candidates must have an earned doctorate, proven effectiveness in teaching (preferably with medical students), a record of scholarly productivity, and demonstrated managerial skills. They should have the ability to provide leadership in both teaching and research. They should have knowledge of, and interest in, the development of a problem-solving based, clinically oriented anatomy course. Fluency in Spanish is desirable, but not required.

The Ponce School of Medicine (PSM) is an LCME accredited, privately funded, U.S. Medical School located on the south coast of Puerto Rico. The Anatomy Department is currently teaching gross anatomy, histology, and embryology and a multidisciplinary course in neurosciences. PSM also has a developing graduate (Ph.D.) program in basic medical sciences. Curriculum vitae, names of at least three references, and a statement of teaching philosophy should be submitted to: **Dr. Adalberto Mendoza, Chairperson of Pathology, Ponce School of Medicine, P.O. Box 7004, Ponce, PR 00732.**

*PSM is an Equal Opportunity Employer and encourages applications from women and minorities.*

### DEAN, GRADUATE COLLEGE

The University of Iowa seeks applications and nominations for the position of Dean of the Graduate College. The dean will be expected to maintain excellence in 90 programs serving over 6000 students. Selection requires an earned doctorate, demonstrated facility in working with diverse internal and external constituencies, and strong interpersonal skills. Applications from women and members of minority groups are earnestly sought. The position is open 1 July 1990, and screening of applications will begin immediately. Address information to: **Chair, Graduate Dean Search Committee, University of Iowa, 111 Jessup Hall, Iowa City, IA 52242.** The university is an Affirmative Action/Equal Opportunity Employer.

### DIRECTOR OF CELL SCIENCE CENTER AUBURN UNIVERSITY (AU) (LOCATED AT AU RESEARCH PARK) AUBURN, ALABAMA

Auburn University completed the construction of a new Cell Science Center containing approximately 8000 square feet of research space in November 1989. The Cell Science Center is to address research areas in plant cell culture and regeneration, fermentation, and hybridoma production of monoclonal antibodies.

Auburn University seeks a senior research scientist who will direct the overall administrative functions of the new Cell Science Center. It is expected that the director will also devote a significant portion of his/her time to conducting a personal research program.

Candidates should have a Ph.D. in biochemistry, microbiology, or some area of biology including specializations within animal or plant sciences. Evidence of significant extramural funding is required. Also, some previous administrative experience is desirable.

The director will be provided a tenured, full professor position in an appropriate academic department. Salary and fringe benefits are competitive. Curriculum vitae and names of three references should be sent to:

**Dr. Joe H. Cherry  
Chair, Search Committee  
Department of Botany and Microbiology  
Auburn University, AL 36849-5407  
Telephone: 205-844-4830**

Applications will be received until 15 May 1990, or until a suitable candidate is selected. *Auburn University is an Equal Opportunity Educational Institution and encourages applications from minorities and women.*

## POSITIONS OPEN

**CHAIR, SURGICAL RESEARCH.** Applications are being sought for the Carroll H. Long Chair of Excellence in Surgical Research, an expansion of an established program in surgical research. Candidates must have M.D. and/or Ph.D. degrees or equivalent and be eligible for appointment at the rank of **ASSOCIATE PROFESSOR or PROFESSOR.** Candidates must have proven administrative, teaching, and leadership abilities in research and have demonstrated excellence in basic or clinical surgical research as evidenced by meaningful, independently funded projects. Board certification in surgery is highly desirable but not a prerequisite. The College of Medicine is a community-based, Veterans Administration-affiliated medical school, located in a beautiful, prosperous, Southern Appalachian Mountain community with a population base of over 1 million in the immediate area. The department has a fully accredited general surgery residency program and faculty have significant teaching responsibilities in undergraduate, graduate, and continuing medical education. Interested applicants should contact: **David N. Walters, M.D., Chairman, Search Committee for Surgical Research Chair, Department of Surgery, P.O. Box 19,750A, James H. Quillen College of Medicine, East Tennessee State University (ETSU), Johnson City, TN 37614.** ETSU is an Equal Opportunity/Affirmative Action Employer.

### CHAIRPERSON DEPARTMENT OF NEUROSCIENCES UNIVERSITY OF CALIFORNIA SAN DIEGO

Applications and nominations are invited for the position of professor and chairperson of the Department of Neurosciences, University of California, San Diego (UCSD), School of Medicine. The School of Medicine is seeking an individual of international stature who will provide leadership to a department encompassing neurosciences from the most basic research aspects to clinical neurology. The department has the responsibility for the teaching of certain components of basic science curriculum to medical students, and has a major leadership role in graduate education in conjunction with Salk Institute and Scripps Clinic and Research Foundation. The department also has the responsibility for administering an accredited residency program in neurology and clerkships for third- and fourth-year medical students in clinical neurology. The department has substantial and widely varied research programs, including a major clinical research program in Alzheimer's disease. The UCSD Medical Center and the Veterans Administration Medical Center constitute the major sites of clinical programs and their affiliations with other local hospitals. Qualifications include demonstrated leadership abilities, academic accomplishments, and administrative capabilities. Candidates qualifying for this senior tenure-track academic appointment should have recognized accomplishments in research, together with publications in one of the major subfields of neuroscience. Salary is based on academic rank and step of appointment within the established UCSD salary scale. Please reply by 25 May 1990 to: **Stephen I. Wasserman, M.D., Chairman, Search Committee for Neurosciences, Department of Medicine, UCSD Medical Center, H-811W, 402 Dickinson Street, San Diego, CA 92103.** An Equal Opportunity/Affirmative Action Employer.

### ASSOCIATE EDITOR

We're looking for a Ph.D. biochemist/molecular biologist with a broad range of interests and research experience in one or more of the following areas: signal transduction, intracellular molecular trafficking, or structural biophysics. Requirements include at least 2 or 3 years of postdoctoral experience and publications in the refereed literature.

Science editors have varied responsibilities in manuscript selection ranging from editing for clarity to soliciting papers. Previous editorial experience is not required. This is a full-time position in our Washington offices.

Please send résumé and list of publications with cover letter and salary requirements to:

**Mr. Gregory Stokes  
AAAS  
1333 H Street, N.W.  
Washington, DC 20005  
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## Research Opportunities in STRUCTURAL BIOLOGY

The following positions are available at the National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Public Health Service:

- (1) Investigator whose program will complement existing research activity. Applicants specializing in innovative biological electron microscopy, image processing, or X-ray crystallography are particularly encouraged. The successful applicant will have a productive track record attesting exceptional promise for future development.
- (2) Postdoctoral Fellow(s) to participate in ongoing research in high-resolution biological electron microscopy including cryo-electron microscopy and image processing. An extensive range of projects in virus assembly, the cytoskeleton (intermediate filaments), biomembranes, fibrous proteins, and image processing algorithms are pursued in a well-equipped laboratory.

Salary is \$25,000 - \$54,721 per annum depending on experience. Send CV, several reprints, summary of research interests and names of three references to:

**Dr. A.C. Steven**  
National Institutes of Health  
Building 6, Room 114  
9000 Rockville Pike  
Bethesda, MD 20892



NIH is an Equal Opportunity Employer

## KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH

Kuwait Institute for Scientific Research (KISR) is a nonprofit organization with a staff of more than one thousand employees engaged in applied research in the fields of environmental and earth sciences; water resources; food resources; engineering; petroleum, petrochemicals and materials and techno-economics.

KISR has a vacancy in the following field:

### PEDOLOGY

#### • Major Duties:

- Evaluating soil surveys and land classification
- Determining land suitability for irrigated agriculture and cropping patterns
- Determining land use for agricultural purposes
- Suggesting possible solutions for drainage, salinity and irrigation constraints.

#### • Qualifications:

Applicants should have a Ph.D. in Pedology and 7-10 years experience in soil survey, and remote sensing in arid regions. Excellent knowledge of laboratory and field work of physical and chemical properties of soils in addition to good understanding of soil surveys and irrigation systems.

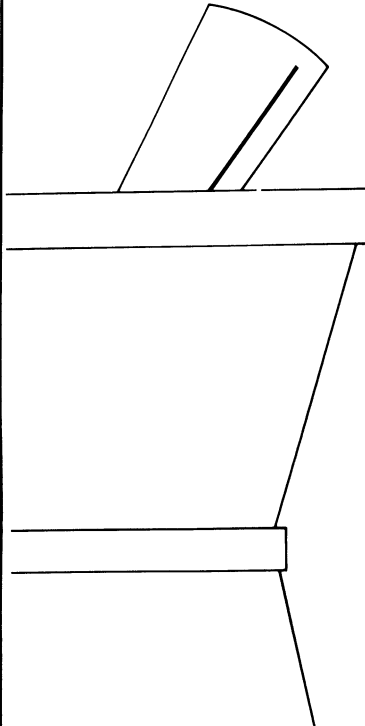
KISR offers attractive tax free salaries commensurate with qualifications and experience and generous benefits that include gratuity, free furnished air-conditioned accommodation, school tuition fees for children, contribution to a savings plan, six weeks annual paid vacation, air tickets, free medical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

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

**Director General**  
Kuwait Institute for Scientific Research  
P.O. Box 24885 Safat  
13109 Safat—KUWAIT.

## Clinical Research Associates

# Where Research Is The Driving Force, There's Never a Shortage Of Exciting New Discoveries.



IMODIUM®, NIZORAL®, SUFENTA®, HISMANAL®, ALFENTA®: These are just some of the important new drugs that have been developed here at Janssen Research Foundation. And we continue to make new discoveries at an extraordinary pace. In fact, we're the world's most prolific discoverer of new therapeutic agents.

We recognize that our success is based upon the vital contribution made by every member of our research team, including our **Clinical Research Associates**. From writing protocols to training investigators, the work you'll do here as a Janssen CRA is critical.

**And you'll be rewarded accordingly.**

Working for a member of the Johnson & Johnson Family of Companies, you'll enjoy a competitive salary and a comprehensive benefits package including our on-site total health facility, the Live For Life Wellness Center. And with the frequency with which new discoveries are made here, there's ample opportunity for career advancement.

**Biostatisticians, Medical Writers**, and professionals in **Regulatory Affairs** and **Professional Services** will find rewarding career opportunities here as well. If you're excited at the prospect of working where new discoveries are continually taking place, we invite you to send your resume and salary history to: Janssen Research Foundation, Employment Office, Box S490, 40 Kingsbridge Road, Piscataway, New Jersey 08854. An Equal Opportunity/Affirmative Action Employer M/F/H/V.

**JANSSEN**  
**RESEARCH**  
FOUNDATION

**"Where Research Is The Driving Force"**

A Johnson & Johnson Company



## POSITIONS OPEN

**CURATOR.** Science professional needed to develop, implement, and manage comprehensive exhibit and education program at major science center. Ph.D. in science or technology field required; 3 years of teaching experience at college or university and 1 year of administrative experience. Starting salary: \$54,696. Send letter and résumé to: **Elizabeth Sims, Personnel Officer, California Museum of Science and Industry, 700 State Drive, Los Angeles, CA 90037.** *Equal Opportunity Employer.*

**CURATOR.** Provasoli-Guillard Center for Culture of Marine Phytoplankton (CCMP). Duties include supervision of the curatorial staff and maintenance of cultures, computerized data base, culture facilities, and associated research facilities. Experience must include isolation and cultivation of algae; electron microscopy and/or molecular biology experience is desirable. Ph.D. or M.S. with extensive experience; salary commensurate with experience. The CCMP is the largest marine algal culture collection, serving an international community of scientists and industry. The CCMP is part of Bigelow Laboratory for Ocean Sciences and is a center for study of marine phytoplankton that encourages on-site research using algal cultures. The CCMP is expanding its cell and molecular facilities as well as constructing cold rooms for polar research. Send curriculum vitae and three letters of reference by 30 May 1990 to: **Dr. Robert A. Andersen, Director, CCMP, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, ME 04575.** *Bigelow Laboratory is an Affirmative Action/Equal Opportunity Employer.*

### DIRECTOR GRAY FRESHWATER BIOLOGICAL INSTITUTE THE UNIVERSITY OF MINNESOTA

The Gray Freshwater Biological Institute, a unit of the College of Biological Sciences, seeks a director to assume duties on or before 1 January 1991. The institute has six sets of spacious, well-equipped laboratories, offices, and meeting rooms, and is located in an attractive environment on Lake Minnetonka in Navarre, 45 minutes from the main university campus. There is ready access to the educational and cultural amenities of the Twin Cities of Minneapolis and St. Paul.

Candidates should have a Ph.D. plus 7 years of academic experience, a broad view of freshwater biology, and creative ideas for its future. A well-established reputation in some field of aquatic biology or chemistry, a record of substantial grant support, and administrative and leadership skills are also required. The position entails leading an active research program with four other faculty, including two junior positions yet to be filled, and administering a substantial endowment. The director will be expected to encourage and seek support for studies ranging from the molecular to the ecosystem level, and to take an active role in integrating the institute's activities with other university programs in freshwater biology, limnology, and aquatic chemistry.

Appointment will be at the full professor level. Preferably, tenure will be in a department of the College of Biological Sciences (Ecology, Evolution, and Behavior; Plant Biology; Genetics and Cell Biology; Biochemistry), although other options are possible. Salary will be commensurate with qualifications.

Applications (with résumés and names of three references), nominations, and requests for further information should be addressed to: **Eville Gorham, Regents' Professor of Ecology, University of Minnesota, 318 Church Street S.E., Minneapolis, MN 55455.** Telephone: 612-625-4407.

Last date for receipt of application is 30 June 1990.

*The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

**MARINE BIOLOGIST.** One-year position, assistant professor or instructor. Ph.D. preferred, beginning fall semester, 1990. Teaching responsibilities include principles of biology course for nonmajors and upper division courses in marine biology, invertebrate biology and participation in senior research program, plus January interim course. Knowledge of computer applications in biology teaching and research would be helpful. Send letter stating teaching philosophy along with curriculum vitae and arrange to have three letters of reference sent to: **Dr. Michael Kolitsky, Chair, Department of Biological Sciences, California Lutheran University, 60 West Olsen Road, Thousand Oaks, CA 91360.** Applications will be reviewed beginning 11 May 1990.

## POSITIONS OPEN

### LABORATORY MANAGER IMMUNOLOGY/RHEUMATOLOGY

A Ph.D. with experience in immunology and molecular biology techniques is sought to apply these research interests to pediatric primary immunodeficiency disease and autoimmune rheumatic disease.

Managerial skill will be helpful to direct this diagnostic laboratory (three medical technicians, fellows, students, etc.) which is housed in the Department of Pediatrics of Northwestern University; a joint appointment in a basic science department may be arranged. The applicant is expected to obtain his/her own funds.

In order to ensure full consideration, qualified individual should submit résumé by 15 May 1990. Résumés can be sent to: **Bonnie Stahl, Human Resources, Children's Memorial Hospital, 2300 Children's Plaza, Chicago, IL 60614.** *An Equal Opportunity Employer, M/F.*



**NMR FACILITY MANAGER.** NMR spectroscopist wanted to maintain and operate two high-field NMR instruments in a new facility in the Department of Biochemistry and Molecular Biophysics at Washington University School of Medicine. A Ph.D. in chemistry or physics is preferred, although candidates with a bachelor's or master's degree and at least 3 years of experience in NMR spectroscopy will be considered. Good communication and interpersonal skills, a background in electronics, and experience in 2D NMR methods are highly desirable. Salary is negotiable and commensurate with experience. Send résumé and three letters of recommendation to: **Gary K. Ackers, Wittcoff Professor and Chairman, Department of Biochemistry and Molecular Biophysics, Washington University School of Medicine, 660 South Euclid Avenue, Box 8231, St. Louis, MO 63110.** *Washington University is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION

Ph.D. in microbiology/immunology. The Department of Health Sciences at East Tennessee State University (ETSU) seeks applicants for a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level opening in August 1990. The position requires teaching of undergraduate and graduate courses in microbiology and immunology, development of a fundable research program, and direction of graduate students. Screening of applicants will begin in April 1990. Rank and salary will depend on qualifications and experience. Send curriculum vitae, a description of research interest, and the names of three references to:

**Dr. Michael T. Gallagher  
Professor and Chair  
Department of Health Sciences  
East Tennessee State University  
P.O. Box 22,690A  
Johnson City, TN 37614**

*ETSU is an Equal Opportunity/Affirmative Action Employer.*

### MARINE BIOLOGIST SHANNON POINT MARINE CENTER WESTERN WASHINGTON UNIVERSITY

Shannon Point Marine Center (SPMC) invites applications for a non-tenure-track faculty position (**ASSISTANT PROFESSOR**) to supervise a new Undergraduate Minorities in Marine Science Program. The incumbent also will teach an upper level undergraduate course in the area of specialty and engage in research at SPMC. The appointment will be for 3 years, commencing 15 September 1990, at an annual salary of \$30,000 (9-month) plus fringe benefits. Summer salary also may be available. Applicants must have the Ph.D. degree. Research specialty may include any area of marine biology. Applicants should submit a letter of application, a résumé, and have three letters of recommendation forwarded to: **Dr. Stephen Sulkin, Director, Shannon Point Marine Center, 1900 Shannon Point Road, Anacortes, WA 98221.** Applications received by 7 May 1990 will be assured of full consideration. *The university is committed to enhancing the diversity of the faculty; women and minorities are encouraged to apply. WWU is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### FACULTY POSITIONS DEPARTMENT OF MICROBIOLOGY NEW YORK UNIVERSITY SCHOOL OF MEDICINE

The Department of Microbiology of New York University (NYU) School of Medicine is seeking to fill several tenure-track positions at the **ASSISTANT/ASSOCIATE PROFESSOR** level within the next 2 years. We are particularly interested in attracting outstanding researchers with a Ph.D. or M.D. degree working in the fields of animal virology, oncogenes, growth factors and their receptors, and bacterial pathogenesis, but will also welcome applications from individuals interested in the molecular analysis of gene expression and function in general. Participation in the department's graduate teaching is expected. Salary is open and dependent upon experience and qualifications, and start-up funds are available.

The Department of Microbiology is located in the Medical Science Building at NYU Medical Center, and comprises at present a group of faculty with diverse research interests including the mechanism of action of cytokines and growth factors, mechanisms of microbial pathogenicity, regulation of gene expression in bacteria and animal cells, molecular genetics, etc. The department has an active graduate training program and also participates in the Kaplan Cancer Center and the Center for AIDS Research. Both of these centers are interdisciplinary NIH-funded programs.

Applicants should send their curriculum vitae, names of three references, and a brief statement of research interests to: **Dr. Claudio Basilio, Professor and Chairman, Department of Microbiology, NYU Medical Center, 550 First Avenue, New York, NY 10016.** *NYU is an Equal Opportunity Employer.*

### FACULTY POSITION IN MARINE BIOLOGY

The University of Guam Marine Laboratory invites applications for a tenure-track, 12-month research faculty position with initial contract for 3 years at the level of **ASSISTANT, ASSOCIATE, OR FULL PROFESSOR.** Expertise is particularly being sought in the areas of population genetics and larval ecology, but other areas of interest will also be considered. The position will be available October 1990. A Ph.D. in an appropriate field and research experience is essential. In addition to developing an active research program, responsibilities include supervision of M.S.-level graduate students and teaching approximately six contact hours per week. Excellent facilities are available for marine biological research. Applicants should send curriculum vitae, name and addresses of three references, and copies of selected publications to: **Dr. Stephen Nelson, Chairperson, Search Committee, c/o University of Guam Personnel Office, UOG Station, Mangilao, Guam 96923.** *An Equal Opportunity/Affirmative Action Employer.*



**The College of  
William and Mary**

### EMINENT SCHOLAR IN MARINE BIOCHEMISTRY

The School of Marine Science, Virginia Institute of Marine Science, College of William and Mary, seeks an outstanding scholar/scientist with a strong background in marine biochemistry as it relates to environmental toxicology or pathobiology for an **ASSOCIATE/FULL PROFESSOR** position. Successful applicant will be expected (i) to teach a graduate level course in marine biochemistry and other courses in special interest areas, (ii) to supervise graduate students at the master's and Ph.D. level in application of biochemical methods to problems in environmental toxicology or pathobiology, and (iii) to maintain an internationally recognized research program in marine environmental toxicology or pathobiology. Candidates must have Ph.D. degree and demonstrated ability to teach and to conduct independent research. Application review will begin 1 June 1990.

Send letter of application, current résumé, and statement of research goals and plans to: **Dr. Morris H. Roberts, Jr., Chairman, Eminent Scholar Search Committee, School of Marine Science, Virginia Institute of Marine Science, College of William and Mary, Gloucester Point, VA 23062.**

*The College of William and Mary is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

**ASSOCIATE DEAN  
DIVISION OF BASIC MEDICAL SCIENCES  
FACULTY OF MEDICINE  
MEMORIAL UNIVERSITY OF  
NEWFOUNDLAND**

The Division includes 46 full time Faculty in the full range of disciplines basic to Medicine, and is organized on a non-departmental basis. The Division has particular strengths in the biochemistry, immunology, molecular biology and neurosciences. Applicants are not limited to these areas. The Division is housed with the Faculty in the Health Sciences Centre on the University campus and the Medical School carries full accreditation from LCME/CACMS.

The successful applicant will have an established reputation in research, demonstrated administrative capability and a commitment to support teaching at the undergraduate and graduate levels. The position is available September 1, 1990.

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

Applications with a detailed curriculum vitae and the names of three references should be sent by June 30, 1990 to:

**Dr. David Hawkins, Chair  
Search Committee for Associate Dean  
Basic Medical Sciences  
Faculty of Medicine  
Health Sciences Centre  
Memorial University of Newfoundland  
St. John's, Newfoundland  
Canada A1B 3V6  
Telephone: (709) 737-6602  
FAX: (709) 737-6400**



**Cardiovascular Research  
Scientist  
Temporary Assignment**

CIBA-GEIGY Pharmaceuticals Division has a temporary position open in our Cardiovascular Research Department at Summit, New Jersey, offering challenge and professional growth.

Qualified candidate will possess a PhD in Cardiovascular Pharmacology/Physiology and experience with *in vivo* techniques. You will study mechanism of action of hypertensive agents in rodents. Good oral and written communication skills are necessary. Experience with *in vivo* hemodynamic measurements and computerized data acquisition would be helpful, but are not mandatory.

This position will afford the opportunity to participate in a stimulating temporary assignment utilizing state-of-the-art facilities. Please send resume with salary history and requirements to: **Staffing Center, CIBA-GEIGY Corporation, Pharmaceuticals Division, Dept PD, 556 Morris Avenue, Summit, New Jersey 07901.** We Are An Equal Opportunity Employer M/F/H/V.

**Science Serving Mankind**

**CIBA-GEIGY**

**A EUROPEAN PHARMACEUTICAL COMPANY  
located in  
MADRID, SPAIN  
Seeks**

**MOLECULAR BIOLOGISTS**

**PHARMAGEN**, a new biotechnology research company to work on the development of DNA probe diagnostic assays for the detection of pathogens and genetic diseases, has immediate openings for Ph.D. molecular biologists. The candidates should be familiar with recombinant DNA standard technologies, nucleic acid purification cloning, sequencing, PCR and molecular hybridization. One or two years of postdoctoral experience plus good knowledge of the English language are required. Years of research in a foreign country would be advantageous.

**PHARMAGEN**, a subsidiary of Zeltia, S.A., based north of Madrid in the community of Tres Cantos, offers personal satisfaction, professional opportunities, competitive salaries and an excellent benefits package.

For prompt consideration and confidential review, qualified candidates should send a c.v. including references to:

**PHARMAGEN  
C/CALERA No 3  
28760 TRES CANTOS  
MADRID, SPAIN**

**FLINDERS MEDICAL CENTRE  
SOUTH AUSTRALIA  
CHIEF HOSPITAL SCIENTIST (SC-5)  
DEPARTMENT OF SURGERY**

Applications are invited for the position of Chief Hospital Scientist responsible for Scientific Services in the Department of Surgery, Flinders Medical Centre, South Australia.

The Flinders Medical Centre is a 500-bed tertiary care teaching hospital integrated with the School of Medicine of the Flinders University of South Australia. The Centre is located in the city of Adelaide and provides clinical and laboratory services in the southern sector of the State, undertakes both medical research and applied development, and contributes to medical and scientific education programmes.

The Department of Surgery provides a wide range of clinical, scientific and surgical services to the Flinders Medical Centre. The Department is structured on a Unit basis with Professor Marshall as the Chairman and Head. Each Unit is headed by a Director or Senior Director who is immediately responsible to the Chairman of the Department.

**Duties:** The successful applicant will be responsible for the Scientific Services Unit, which currently provides scientific diagnostic and research support in the broad fields of breast, gastrointestinal and urological disorders.

The Laboratories in these three main sections come under the immediate jurisdiction of a hospital scientist; a fourth section with associated diagnostic laboratory and research services may be created upon the appointment of the Scientific Director, depending upon the individual's expertise and field of scientific interest.

The incumbent will be expected to direct and implement his/her own personal research with a high level of productivity, liaise on a collaborative basis with senior scientists and with senior members of other surgical units regarding the execution of shared research projects, and oversee and co-ordinate the administrative and diagnostic service aspects of the Scientific Services Unit.

**Qualifications:** The successful applicant will be expected to have 10 years postdoctoral experience, an established research track record in his/her field of expertise, and demonstrated managerial skills.

**Salary:** Will be in the range A\$50,541 – A\$51,914. The position is permanent and the successful applicant will be eligible for superannuation benefits.

**Queries to:** Telephone or FAX enquiries are welcome and should be directed to Prof. V. Marshall Tel (08) 275 9391; FAX (08) 275 9450.

**Applications:** Applications including a full curriculum vitae and the names, addresses and telephone numbers of three referees should be sent to the Senior Personnel Officer, Flinders Medical Centre, Bedford Park 5042, South Australia.

**Closing Date:** 18th May 1990.

## POSITIONS OPEN

### PONCE SCHOOL OF MEDICINE FACULTY POSITION BIOCHEMISTRY/MOLECULAR BIOLOGY

The Department of Biochemistry at Ponce School of Medicine is seeking applicants for a full-time position at ASSISTANT/ASSOCIATE PROFESSOR level.

Applicants should have a Ph.D., M.D., or equivalent degree in biochemistry, preferably with experience in molecular biology, and be fluent in Spanish and English. It is expected that the new faculty will teach in the medical and graduate programs, develop and implement a research program, and supervise graduate students in Ph.D. dissertations.

Space and start-up money are available. Annual salary: \$25,000 to \$29,000.

Candidates should submit curriculum vitae to:

**Dr. Carmen M. Mercado**  
Department of Biochemistry  
Ponce School of Medicine  
P.O. Box 7004  
Ponce, PR 00732

*Ponce School of Medicine is an Equal Opportunity Employer.*

### IMMUNOLOGIST CLINICAL LABORATORY SCIENCES

The Department of Health Sciences invites applications from qualified individuals for a tenured/tenure-track position in the Clinical Laboratory Sciences Program. Salary and rank dependent on qualifications. Applicants must hold a Ph.D. in immunology or related area with emphasis in clinical immunology and have a strong commitment to teach and supervise undergraduate and graduate students. Candidates will be expected to develop a vigorous independent research program. Individuals with clinical laboratory certification are encouraged to apply. Applicants should submit curriculum vitae, statement of research interests, and three letters of reference to the Search and Screen Committee by 15 August 1990:

**Dr. Randall S. Lambrecht**  
Chair, Search and Screen Committee  
School of Allied Health Professions  
University of Wisconsin-Milwaukee (UWM)  
P.O. Box 413  
Milwaukee, WI 53201

*UWM is an Equal Opportunity/Affirmative Action Employer.*

### ALLELIX BIOPHARMACEUTICALS, INC.

This major Canadian biopharmaceuticals company offers outstanding opportunities for innovative and practical scientists of proven accomplishments.

- **MOLECULAR BIOLOGIST.** Several positions available for scientists with experience, preferably industrial, in cloning and expression of heterologous genes in *E. coli*, fungal or mammalian cells. For the mammalian cell position, experience with cell surface molecules an asset.

- **PROTEIN CHEMIST.** Develop processes for the separation and purification of recombinant proteins and their characterization. Strong background in protein biochemistry required.

Qualified candidates should possess a Ph.D. and several years of postdoctoral or equivalent experience, and have good communication and interactive skills.

Allelix Biopharmaceuticals, located near Toronto, is financed by several leading Canadian concerns. The company offers a competitive compensation package.

For consideration, please forward résumés with three references, quoting file #AB9002, to:

**Mr. Walter Gagen**  
Allelix Biopharmaceuticals, Inc.  
6850 Goreway Drive  
Mississauga, Ontario L4V 1P1, Canada

### MOLECULAR POPULATION GENETICIST GS 440-11/12

With U.S. Department of Commerce National Marine Fisheries Service, Seattle, Washington. Collects and applies RFLP data from nuclear DNA of salmon for use in stock identification, fisheries enhancement, and gene conservation projects. Term appointment not to exceed 3 years. Salary: \$29,891 or \$35,825 DOE. Requires B.S. in genetics/biology plus 3 years of directly related professional experience or graduate education. Relocation expenses will not be paid. For further information and application forms, please contact: **Lori Budbill** at 206-526-6066 by 1 May 1990. *Equal Opportunity Employer.*

## POSITIONS OPEN

**SKIN CANCER GENETICIST.** We are seeking an individual with experience in skin cancer research with animals to establish a new laboratory in our Department of Genetics. The successful candidate will be expected to develop a strong independent research program on UV-induced skin cancer and to collaborate with members of our laboratories of molecular genetics, biochemical genetics, immunogenetics, population genetics, quantitative genetics, and cell biology. This position will be a critical component of a major new research initiative involving our pedigreed colony of 1200 *Monodelphis domestica*, which is a unique model for UV-induced melanoma. Research with rodents, human subjects, and our pedigreed colony of 3200 baboons also is possible. Academic affiliation also may be possible. Salary and rank will be commensurate with experience. This is an excellent opportunity for a creative scientist to have a leadership role in an expanding genetics department. Mail résumé, statement of research interests, and names, addresses, and telephone numbers of three references to: **Personnel Director (001), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78228-0147.** *Equal Opportunity Employer, M/F.*

### MEDICAL OFFICER BIRTH DEFECTS

The Centers for Disease Control (CDC), Center for Environmental Health and Injury Control, Division of Birth Defects and Developmental Disabilities, Birth Defects and Genetic Diseases Branch, Atlanta, Georgia, is seeking to recruit a medical officer to direct studies relating to the epidemiology of birth defects and genetic diseases. The individual selected for this position is expected to participate in the branch surveillance activities, conduct etiologic studies of birth defects, and provide technical assistance to state and local health departments. Applicants must have a degree in medicine. In addition to the M.D., further training and experience in epidemiology or genetics is desirable. Commissioned corps officers or those interested in joining the commissioned corps are encouraged to apply. For technical information related to this announcement, contact: **J. David Erickson, Ph.D., D.D.S., telephone: 404-488-4717.** Send résumé to: **J. David Erickson, CDC, 1600 Clifton Road, N.E., F37, Atlanta, GA 30333.**

*CDC is an Equal Opportunity Employer and provides a smoke-free work environment.*

### MOLECULAR VIROLOGY RESEARCH MAYO CLINIC-ROCHESTER

The Division of Experimental Pathology and Laboratory Medicine at Mayo Clinic, Rochester, Minnesota, is seeking an established investigator to carry out a program of basic research into the molecular mechanism and pathogenesis of herpesvirus infections. *Candidates for this staff position must be U.S. citizens or permanent residents trained in molecular virology techniques with an established track record of successful investigation in the field of virology.*

This is an excellent opportunity for an individual to carry out basic research in a clinical environment. We seek an individual who is interested in the problems of viral latency and reactivation in organ transplantation. State of the art facilities, space, equipment, and start-up support and the extensive resources of the Mayo Clinic research community will be available to the incumbent.

Qualified candidates should submit detailed curriculum vitae and bibliography to: **Thomas P. Moyer, Ph.D., Department of Laboratory Medicine and Pathology, Mayo Clinic, Rochester, MN 55905.**

*An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORALS: GENETICS OF FUNGAL DEVELOPMENT.** Genetic regulation by mating-type in *Schizophyllum*. Alleles of *Aα*, *Aβ*, and one *B* locus have been cloned. Sequence of *Aα* alleles suggests regulation of developmental genes by DNA binding. Focus is now on identification of mating-type functional domains, gene products, and how these regulate developmental genes. Experience in molecular genetics, nucleic acids, and/or protein biochemistry desired. Positions to be assumed any date within the next year; funded for at least 2 years. Send curriculum vitae, reprints, statement of research interests, and three letters of reference to: **Dr. Robert C. Ullrich or Dr. Charles P. Novotny, Department of Botany or Department of Microbiology and Molecular Genetics, University of Vermont, Burlington, VT 05405.**

## POSITIONS OPEN

### MOLECULAR GENETICIST/ PSYCHOPHARMACOLOGIST

Mayo Clinic/Mayo Medical School invites applicants for a **FACULTY POSITION** in the Department of Psychiatry and Psychology, in close collaboration with members in the Department of Pharmacology and/or the Department of Biochemistry and Molecular Biology. Candidates should have primary interests in major psychiatric disorders and be pursuing these interests with the methods of molecular genetics and/or molecular pharmacology. M.D. and clinical training in psychiatry are desirable but not required. Mayo will provide generous space and start-up funds in addition to an attractive package of salary and benefits. Academic rank will be determined by qualifications; established investigators are also encouraged to apply. Submit curriculum vitae with names and addresses of three or more references to: **Toshihiko Maruta, M.D., Chairperson of Search Committee, Department of Psychiatry and Psychology, Mayo Medical School, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Employer.*

### PHARMACOLOGY

**ASSISTANT PROFESSOR**, 12-month position available 1 July 1990. Teach pharmacology to optometry, pharmacy, and osteopathic medical students and participate in the committee structure of the university. Ph.D. required. Letter of application, complete résumé, and three reference letters by 1 June 1990, to: **Harold Laubach, Ph.D., Associate Dean for Basic Science, Southeastern University of the Health Sciences (SEUHS), 1750 N.E. 168th Street, North Miami Beach, FL 33162.** *SEUHS is an Affirmative Action/Equal Opportunity Employer.*

### PLANT MOLECULAR BIOLOGIST

The Competitive Research Grants Office of the U.S. Department of Agriculture (USDA) seeks a qualified scientist to serve as **ASSOCIATE PROGRAM MANAGER** for grants administration in the areas of plant genetics, plant molecular biology, and plant growth/development. Candidates must have a B.S. or higher degree with major study in botany, plant physiology, or a closely related discipline and must have had at least ten semester hours of plant physiology. In addition the candidate must have a Ph.D. or equivalent experience directly related to molecular biology.

Closing date is 14 May 1990. For information on the position, contact: **Dr. Anne Datko, Competitive Research Grants Office, CSRS/USDA, Room 323 Aerospace Building, Washington, DC 20250-2200.** Telephone: 202-475-4871. For information on application procedures/forms, contact: **Ms. Kathy Asmussen, personnel staff specialist, telephone: 202-475-4811.** *USDA is an Equal Opportunity Employer.*

**POSTDOCTORAL POSITION.** Mechanism of regulation of smooth muscle myosin by phosphorylation, and the role of actin-bound regulatory proteins. Techniques include site-directed mutagenesis, analysis of mutant proteins by biophysical methods, use of monoclonal antibodies as probes of myosin function, and in vitro motility assays. Send curriculum vitae and references to: **Dr. Kathleen Trybus, Rosenstiel Research Center, Brandeis University, Waltham, MA 02254.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION: NEUROPHARMACOLOGY.** Immediate opening to study the actions of phencyclidine on dopamine neurons. Experience in extra- and intra-cellular electrophysiology in vivo and in brain slices is preferred. Position for 2 to 3 years. Salary negotiable. Send curriculum vitae and three letters of reference by 1 June 1990 to: **Dr. Ed French, Department of Pharmacology, University of Arizona, College of Medicine, Tucson, AZ 85724.** *An Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

### POSTDOCTORAL RESEARCH ASSOCIATE

Two- to three-year position to study molecular mechanisms in neurological/neuromuscular diseases. Available immediately. Recent Ph.D., recombinant DNA experience required, with PCR or cDNA preferred. *Equal Opportunity Employer. Women and minorities are encouraged to apply.* Send curriculum vitae and recent publications/manuscripts to: **Richard Bartlett, Ph.D., Department of Medicine, Box 2900, Duke University Medical Center, Durham, NC 27710.**



The Biomedical R&D Division of **GEO-CENTERS, INC.** has immediate openings for technical staff positions in support of our R&D activities at various facilities throughout the U.S. Applicants for all positions must possess U.S. Citizenship, and will be evaluated on their educational background and practical experience, as demonstrated by a solid publication record in the appropriate field. Unless otherwise indicated, applicants must possess a Ph.D. in Immunology, Microbiology, Molecular Biology, Physiology, Virology, or a related field.

**Research Microbiologist – Code 2137: Bethesda, MD** A Postdoctoral level candidate is sought to conduct research which incorporates the theories and techniques of microbiology, molecular biology, biochemistry, immunology, and rickettsiology for the purpose of investigating the role of cell wall antigens as components of sub-unit vaccines. The successful candidate will possess related hands-on laboratory experience with such activities, and will also require in-depth knowledge of separation techniques for proteins and glycoproteins.

**Research Microbiologist – Code 2149: Bethesda, MD** A Postdoctoral/Staff level candidate is sought to conduct research on the development of rapid diagnostic tests. The position will involve the characterization of unknown virus isolates, and will require experience in virus propagation and purification. The ideal candidate will have practical experience with protein gel electrophoresis, Western blotting, ELISA, as well as molecular cloning and PCR. The candidate will also possess an in-depth knowledge of immunology and immunodiagnostics as they relate to infectious diseases. Knowledge of arthropod-borne viruses and tropical medicine is a definite plus.

**Research Immunologist – Code 2164: Great Lakes, IL** A Postdoctoral level candidate is sought to conduct research on the development of immunoassays which are relevant to the diagnosis of oral infectious diseases. The successful candidate will possess extensive experience in cell-mediated immunology, and will have demonstrated practical expertise with associated laboratory techniques and procedures. Prior experience with assay development for oral pathogens is desired.

**Research Microbiologist – Code 2165: Bethesda, MD** A Senior Staff level candidate is sought to develop and initiate microbiologically oriented research directed at understanding problems of dental and oral health. The successful candidate will have prior experience with the development of techniques and procedures which facilitate the delivery of dental care, and will have specific experience in clinical microbiology as it relates to oral diseases. In addition, a broad based background including immunology, biochemistry, and cell biology will be considered a plus.

**Research Physiologist – Code 2166: San Diego, CA** A Senior Staff level candidate is sought to conduct research on human performance in various work, environmental, and other stressors. This position involves the identification of the physical, mental, behavioral, and man-machine interface requirements for successful performance during sustained military operations. The successful candidate will possess hands-on experience in the assessment of human performance when subjected to various stressors, and the development and evaluation of effective performance degradation countermeasures.

**Molecular Biologist – Code 2167: Bethesda, MD** A staff member is sought to assist in research activities associated with cerebral microvascular ischemia. The successful candidate will possess an MS (or equivalent) in Molecular Biology, and will possess extensive experience in cell culture techniques and cell physiology. In addition, the candidate will have expertise with Western, Northern, and Southern blot techniques, as well as PCR. Prior experience with endothelial cell-macrophage transformation is a plus.

**Support Staff – Code 2152** GEO-CENTERS is encouraging BS and MS level candidates with several years of practical laboratory experience in molecular biology, immunology, virology, and related fields for consideration as members of the technical support staff. Please indicate any geographic preferences, if any.

**GEO-CENTERS, INC., offers competitive salaries, and an excellent relocation and benefits package. Qualified applicants should send their resumes, salary history, and references in confidence to: GEO-CENTERS, INC., 10903 Indian Head Highway, Fort Washington, MD 20744, Attn: Deborah Hall-Greene, Human Resources. Please indicate the appropriate code. An Equal Opportunity Employer/Affirmative Action Employer.**



**GEO-CENTERS, INC.**



## Director Center for Molecular Biology

### Wayne State University

Applications are invited for the position of Director of the Center for Molecular Biology, an interdisciplinary program composed of primary and participating faculty located in various departments throughout the University. The Director reports to the Vice President for Research and Dean of the Graduate School and will be responsible for the continued growth and development of the Center, which has a \$2,000,000+ annual operating budget. The Center for Molecular Biology is a relatively young enterprise and currently has eight full-time and three half-time faculty members; additional faculty positions are available. The Director should be an independent investigator with a superlative record of scholarly accomplishment in an area of Molecular Biology, possess extramural support and have the capacity for leadership and administration. Experience with promoting economic development through effective technology transfer is highly desirable. Salary is commensurate with qualifications and experience. Applicants should forward a copy of their curriculum vitae to:

Dr. Raymond F. Novak  
Chairman, Search Committee  
Wayne State University  
2727 Second Avenue, Room 4000  
Detroit, MI 48201

Wayne State University is an equal opportunity/affirmative action employer.

Public Health Service  
Alcohol, Drug Abuse and Mental Health Administration  
National Institutes of Mental Health

## Staff Fellow or Senior Staff Fellow

A two-year laboratory fellowship is available now to investigate molecular mechanisms in aging of the central nervous systems. Salary range \$24,000 to \$52,825 per annum, depending upon qualifications and experience. Applicants should have a Ph.D. or M.D. and training in molecular biology. Send curriculum vitae, and three letters of reference to:

Dr. Carl Merrill  
Laboratory of Biochemical Genetics  
National Institute of Mental Health  
NIMH Neuroscience Center  
at Saint Elizabeths' Hospital  
2700 Martin Luther King Jr. Ave., S.E.  
Washington, D.C. 20032

For further information please contact Dr. Merrill at (202) 373-6085.

NIMH is an Equal Opportunity Employer

# INVESTIGATIVE DERMATOLOGY

**H**offmann-La Roche, a leader in pharmaceutical research and development, has an excellent career opportunity in our Pre-clinical Dermatology Research Department.

The successful candidate will be responsible for establishing a laboratory to study metabolism and tissue levels of topically-applied dermatological agents. You will be part of a team effort working closely with other scientists in dermatology programs at the earliest stages of drug discovery to select candidates for clinical evaluation. In addition, you will interact with scientists within the Research Division, such as Drug Metabolism, Toxicology, Pharmacology and Chemistry. To qualify, you must have a PhD in Biochemistry, Chemistry or Pharmacology, with 2-4 years' experience in drug metabolism and analytical methods development.

We offer a competitive salary, a generous company-paid benefits package, a state-of-the-art scientific environment, and the resources you'll need to have impact in an important field. For consideration, please send your resume and present salary (those without this information will not be acknowledged), to: **Mrs. Eleanor M. Malone, Senior Professional Staffing Specialist, Department SS, Hoffmann-La Roche Inc., Nutley, New Jersey 07110.** We are an equal opportunity employer.



**Hoffmann-La Roche**

Working Today For A Healthier Tomorrow.



Alkermes, Inc. is a private biomedical company focused on the development of innovative systems for drug delivery across the blood-brain barrier. We seek highly qualified scientists to join our group of 30 scientists:

## Director of Pre-Clinical Development

Candidate should have a Ph.D. in Pharmacology or related biological science and expertise in animal models, pharmacokinetics, and toxicology. Seven to ten years' pre-clinical industrial experience essential with experience in regulatory agency filings.

Position includes responsibility for management of a pharmacology group and design and conduct of in vivo pre-clinical evaluation of novel drug delivery systems using behavioral, biochemical, and physiological techniques to be conducted either intramurally or externally by contract research organizations.

This position offers an excellent salary, stock option and benefits package in a stimulating environment with an opportunity to make a major contribution. For consideration, please send your CV, including references, and a statement of interest, in confidence to: **Mr. Stuart Davidson, President, Alkermes, Inc., 26 Landsdowne Street, Cambridge, MA 02139-4234.**

An Equal Opportunity Employer

At Burroughs Wellcome Co. we create an environment in which individual initiative can flourish...as our 1988 Nobel winners have attested. We believe such freedom is the strength of our company...using the talents of our people whatever their field of endeavor.



## GREAT PEOPLE MAKE A GREAT COMPANY

### Postdoctoral Fellow - Molecular Neurobiology

**(Pos. #61966-4)** We are seeking a postdoctoral candidate to study the physical properties, expression and cellular regulation of mammalian tyrosine hydroxylase. Specific duties will be to purify the enzymetirosine hydroxylase (TH) from recombinant, eukaryotic and prokaryotic expression systems and study the physical properties of the enzyme in its native state and following activation. Also, to investigate the control of TH gene expression in cell cultures.

Candidates must have an M.D. degree or Ph.D. degree in biochemistry or pharmacology with training in protein biochemistry and/or molecular biology. Experience or training in neurobiology with specific emphasis on catecholamine transmitter systems is required. Cell culture experience would be helpful.

### Junior Research Pharmacologist

**(Pos. #61972-4)** An opportunity exists for a scientist to help develop and maintain a cardiovascular research program directed toward the treatment of heart failure. Candidates must have a Bachelor's degree in a biological science with two years laboratory experience in pharmacology or physiology, OR a Master's degree in pharmacology or physiology. Other factors to be considered in selection include: experience in cardiovascular research (**in vivo** and/or **in vitro**) and experience with computer software systems for data acquisition/management.

As a valued professional at Burroughs Wellcome Co. you will receive a salary commensurate with your experience, and be supported by the highest level of benefits in our industry. If you are interested in working for us, submit your resume, indicating position number in your cover letter, by **May 29, 1990** to: **Burroughs Wellcome Co., Recruiting and Staffing, 3030 Cornwallis Road, Research Triangle Park, NC 27709**. For information on job opportunities with Burroughs Wellcome Co., call our Job Information Line at **(919)248-8347** in Research Triangle Park, NC or **(919)830-2997** in Greenville, NC.



**Wellcome**

**BURROUGHS WELLCOME CO.**

An Equal Opportunity Employer

## RESEARCH ASSOCIATE OPPORTUNITIES

**Amgen** has emerged as an innovative leader in the discovery, development, and marketing of human therapeutics through applied biotechnology. We recognize that our future success depends upon continued commitment to scientific excellence. As a result of this commitment and our rapid growth, we have several opportunities for BS and MS level scientists who wish to share **Amgen's** commitment to scientific excellence. Those opportunities currently being recruited for are listed below.

### BIOCHEMISTRY

#### Dept. #507

Contributions will be made to on-going research efforts in the identification of novel hematopoietic growth factors as well as comparing and characterizing recombinant and natural proteins. Candidates must have a BS or MS in Cell Biology, Biochemistry, or a related discipline and a minimum of two years' experience in mammalian cell culture and general biochemical techniques. Familiarity with immunological and biological assays for the quantification of biological activity is essential.

### MOLECULAR BIOLOGY

#### Dept. #509

Our Molecular Biology and Immunology Groups have several opportunities available with responsibilities including assay development, cDNA cloning, and general molecular biology as they relate to a number of on-going research projects. A BS or MS in Molecular Biology, Biochemistry, or a related discipline and a minimum of two years' experience in molecular and cellular biology are required. Experience in basic gene cloning and mammalian tissue culture is essential. Familiarity with a variety of bioassays, cDNA cloning, and gene expression in prokaryotic and/or eukaryotic systems is highly desirable.

**Amgen** offers a stimulating and challenging research environment on the leading edge of biotechnology as well as an excellent compensation and benefits package. If you have the necessary skills and qualifications and would like to be a part of an organization that places a high priority on its human resources, please send a resume or CV, specifying the appropriate Dept. #, in confidence, to:

**AMGEN, INC.**  
**Recruitment, Dept. # (please specify)**  
**Amgen Center**  
**Thousand Oaks**  
**CA 91320-1789**

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**AMGEN**

## POSITIONS OPEN

**POSTDOCTORAL POSITION.** Available April 1990. Goals of 3-year program are to determine mechanisms of the settling response and chemosensory recognition of barnacle larvae to bacterial films. Research is coordinated with an undergraduate minority training program. Send curriculum vitae to: **Dr. Elizabeth Wenner, Marine Resources Research Institute (MRRRI), Box 12559, Charleston, SC 29412.** MRRRI is an Affirmative Action/Equal Opportunity Employer; minority applications are strongly encouraged.

**POSTDOCTORAL POSITION.** An opportunity for someone with training in cell culture and recombinant DNA techniques (essential) to apply skills to a protein structural problem in hemostasis. This is a biophysical laboratory in which you will learn high resolution NMR spectroscopic methods. Available 1 June 1990. Send curriculum vitae and three letters of recommendation to: **Dr. Peter Gettins, Department of Biochemistry, Vanderbilt University School of Medicine, Nashville, TN 37232.** Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION.** Available fall/winter of 1990 for recent Ph.D. to study signal transduction via the EGF receptor. Projects involve the study of various enzymes that metabolize phosphoinositides as well as processes that regulate the sensitivity of the EGF receptor. Experience in protein chemistry preferred. Send résumé and names of three references to: **Dr. Linda Pike, Washington University School of Medicine, Department of Biochemistry and Molecular Biophysics, 660 South Euclid, Box 8045, St. Louis, MO 63105.**

**POSTDOCTORAL POSITION** is funded and available immediately to study the molecular and cellular biology of fibronectin gene expression during wound healing. Our research is focused on the mechanisms governing alternative splicing of fibronectin and the biological consequences of splicing during the process of tissue repair. Applicants should have a strong background in cell biology and have an interest in experimental pathology and molecular biology. Send curriculum vitae and the names of three references to: **Dr. Livingston Van De Water, Department of Pathology, Beth Israel Hospital, and Harvard Medical School, 330 Brookline Avenue, Boston, MA 02215.**

### CELLULAR ELECTROPHYSIOLOGY

A **POSTDOCTORAL POSITION** will be available starting late 1989 to early 1990 to investigate calcium channel regulation. The patch clamp technique will be used to characterize the molecular effects of phosphorylation on membrane current at the single-channel and whole-cell levels [e.g., *PNAS* 87, 753 (1990)]. Experience with electrophysiological methods and a strong quantitative background are essential. There are no citizenship restrictions, and salary will be commensurate with experience. Candidates should address inquiries with curriculum vitae to: **Eduardo Marban, M.D., Ph.D., Hunterian 116, The Johns Hopkins University School of Medicine, Baltimore, MD 21205.**

**POSTDOCTORAL POSITION.** Available to study gene regulation in human parvoviruses and HIV or to develop parvovirus, AAV, transducing vectors with special reference to respiratory epithelium. Individuals with experience in molecular biology, biochemistry, protein chemistry, or virology should send curriculum vitae and names of three references to: **Dr. Barrie J. Carter, Chief, Laboratory of Molecular and Cellular Biology, NIDDK, Building 8, Room 304, National Institutes of Health (NIH), 9000 Rockville Pike, Bethesda, MD 20892.**

*NIH is an Equal Opportunity Employer.*

**POSTDOCTORAL POSITION.** Available in the laboratory of Dr. Albert Wong. Research involves the study of genetic alterations that occur in human cancer and their underlying mechanisms. Research will utilize a molecular approach to analyze spontaneously occurring mutations in the EGF receptor and determine role of signal transduction protein in tumorigenesis. Familiarity with the methods of molecular biology preferred. Submit résumé and names of three references to: **Personnel Representative-DAW, Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** Equal Opportunity Employer.

## POSITIONS OPEN

### POSTDOCTORAL POSITION CELL BIOLOGY

Applications are invited for a postdoctoral position to study (i) growth factor release by endothelial cells and (ii) the occurrence and mechanisms of cell plasma membrane wounding in vitro and in vivo. Experience in tissue culture and/or light, fluorescence, and electron microscopy would be useful. Applications, including curriculum vitae and the names of three references, should be sent to: **Dr. Paul L. McNeil, Department of Anatomy and Cellular Biology, Harvard Medical School, Boston, MA 02115.**

*Harvard University is an Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL POSITION MOLECULAR BIOLOGY

A position is available to study the molecular pathogenesis and replication of influenza viruses. The research involves elucidation of the structural features determining virulence in the hemagglutinin and the mechanism of transcriptional regulation. The candidate will receive training in state-of-the-art molecular and immunobiological techniques that are being used to address these questions. Interested individuals should send their curriculum vitae and the names of three references to: **Dr. Yoshihiro Kawaoka, Department of Virology and Molecular Biology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105.** An Equal Opportunity/Affirmative Action Employer.

### POSTDOCTORAL POSITION

Position available for an individual with a Ph.D. and experience in molecular biology. The successful applicant will be engaged in research on the biochemical and molecular mechanisms by which angiotensin peptides and other hormonal and pharmacological stimuli mediate cardiac muscle cell growth. There will also be the opportunity to engage in research defining the role of a localized intracardiac renin-angiotensin system in mediating cardiac muscle cell growth, with an emphasis on the regulation of the precursor genes for this system. Competitive salary and fringe benefits are available. Please send curriculum vitae and three names or letters of reference to: **Dr. Kenneth M. Baker, Weis Center for Research, Geisinger Clinic, Danville, PA 17822.** Equal Opportunity Employer.

**POSTDOCTORAL POSITIONS.** In cellular and molecular endocrinology. New interdisciplinary training program supported by NIH training grant invites applications from U.S. citizens and permanent residents only. The following laboratories are currently participating: C. Bancroft, Ph.D., physiology (pituitary gene regulation); T. F. Davies, M.D., medical endocrinology (thyroid cells and autoimmunity); M. Gibson, Ph.D., medical endocrinology (neuroendocrine control of gonadal function); E. Gurpide, Ph.D., reproductive science (hormonal mechanisms of endometrial cell biology); R. McEvoy, M.D., anatomy (islet cells and autoimmunity); J. Roberts, Ph.D., reproductive science (steroid receptor genes); and S. Wilk, Ph.D., pharmacology (hypothalamic peptidases). Positions will be filled as they become available and on a competitive basis. Applicants for 1990 and 1991 are advised to contact the appropriate mentor or request further details directly from: **Dr. Terry F. Davies, M.D., FRCP, Director, Division of Endocrinology, Box 1055, The Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029-6574.** An Equal Opportunity Employer.

Beckman Laser Institute and Medical Clinic, University of California, Irvine, has a **POSTDOCTORAL POSITION** immediately available to develop instrumentation for fluorescence lifetime measurements of drugs/probes in cells and tissues with application in cancer diagnostics and laser-based therapeutics. Candidates with expertise in lasers/optical fibers, time-resolved spectroscopy, and computer interfacing preferred. Experience in microscopy and image processing is desirable. One- or two-year appointment available. The Beckman Laser Institute is a unique interdisciplinary facility which houses a laser/biomedicine clinic as well as basic research laboratories. Send curriculum vitae and three letters of reference to: **Dr. Bruce J. Tromberg, Beckman Laser Institute, 1002 Health Sciences Road, East, University of California, Irvine, CA 92715.** The University of California is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### POSTDOCTORAL POSITION DEPARTMENT OF PERIODONTICS SCHOOL OF DENTISTRY THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO

Postdoctoral position available for Ph.D. or equivalent degree to participate in studies of the outer membranes of Gram-negative bacteria associated with inflammatory periodontal disease. The position will involve both ultrastructural and biochemical studies of the Gram-negative cell envelope. Requires previous research training in microbiology/biochemistry and electron microscopy. Successful candidate will join an active laboratory consisting of six postdoctoral fellows, graduate students, and research assistants. Please forward curriculum vitae and three letters of recommendation to: **Dr. Stanley C. Holt, Department of Periodontics, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7894.** The University of Texas Health Science Center at San Antonio is an Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL FELLOW.** To study esophageal motility. Research focuses on the electrophysiology of esophageal muscle, genesis of lower esophageal sphincter (LES) tone, and mechanisms of LES relaxation. Knowledge of pharmacology and muscle physiology is required. Send curriculum vitae and references to: **Dr. Ravinder K. Mittal, Division of GI, Box 145, Health Sciences Center, University of Virginia, Charlottesville, VA 22908.**

### POSTDOCTORAL FELLOW

Postdoctoral position beginning 1 September 1990 for M.D./Ph.D. or Ph.D. in a laboratory studying mechanisms of receptor clustering and molecules that influence postsynaptic structures. Send curriculum vitae and three letters of reference to: **Donald Payan, Howard Hughes Medical Institute, U-426, University of California, San Francisco, San Francisco, CA 94143.**

**POSTDOCTORAL FELLOW** to study  $Ca^{2+}$ -dependent phospholipid binding proteins of the annexin/lipocortin family. Emphasis on biochemical and molecular-genetic approaches to elucidate the properties of these proteins and their interactions with cellular and artificial membranes. Send curriculum vitae and names and telephone numbers of references to: **Dr. Jonathan Tait, Department of Laboratory Medicine, SB-10, University of Washington, Seattle, WA 98195.**

**POSTDOCTORAL FELLOW.** Three positions available until filled. Microbial ecology: bacterial growth and utilization of DOM. Zooplankton ecology: ecology/behavior of meso- and microzooplankton. Marine botany: seagrass/algal growth and physiology. Submit résumé and names of three references to: **Dr. Ronald Benner (microbiology), Dr. Edward Buskey (zooplankton), Dr. Kenneth Dunton (botany), University of Texas at Austin, Marine Science Institute, Port Aransas, Texas 78373-1267.** Telephone: 512-749-6711. An Equal Opportunity/Affirmative Action Employer.

### POSTDOCTORAL FELLOWSHIP POSITION MOLECULAR GENETICS

Postdoctoral fellowship position, for 1-year term with possibilities of extension to a second year, is available for molecular studies on genetics of development of higher fungi. Candidate should have experience in classical and molecular genetics of higher fungi and expertise in isolation and manipulation of genes. Funding provided by NSERC. Applications, including curriculum vitae and reprints of publications, should be sent to:

**Dr. Alfredo M. Muñoz-Rivas  
Department of Plant Science  
Macdonald College of McGill University  
21,111 Lakeshore Road  
Ste. Anne de Bellevue  
Quebec, H9X 1C0, Canada**

Closing date for applications is 31 May 1990. The position is available immediately and will be filled when a suitable candidate has been chosen. All qualified individuals are encouraged to apply.

In accordance with Canadian immigration regulations, priority will be given to Canadian citizens and permanent residents of Canada.

## GENETICIST

Roswell Park Cancer Institute seeks applicants who have demonstrated excellence in human molecular genetics. This tenure-track position requires establishing a vigorous, independent, grant-supported research program; directing graduate research; and participating in teaching graduate courses in the faculty member's area of interest. Preference will be given to those interested in molecular characterization of human inherited disease, including cancer, and in the development of technology for mapping the human genome. Active participation in an Institute-wide genetics research program on Human Genome Mapping and Function will be encouraged. Academic appointment will be in the Roswell Park Division of the State University of New York at Buffalo. Rank, salary, start-up funds and space will be commensurate with qualifications. Superb core facilities are available. Please send curriculum vitae, a research summary, and the names of three references to:

Thomas B. Shows, Ph.D.  
Chairman, Department of Human Genetics  
Roswell Park Cancer Institute  
Elm and Carlton Streets, Buffalo, New York 14263



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## Protein Chemistry Research

The Molecular Genetics Research Department at Pfizer is seeking an exceptional scientist to head up its Protein Chemistry Group. The position includes responsibility for a multidisciplinary research program related to the biochemistry of a number of therapeutic targets in the areas of neuroscience, immunology, inflammatory, and metabolic diseases. In this position, you will lead a team of scientists with expertise in purification and refolding of proteins from recombinant sources, all phases of primary and secondary structural analysis of proteins, and peptide and nucleic acid chemistry.

You are particularly encouraged to apply if you have established an independent research group and have project coordination or industrial management experience. You must have a minimum of 6 years experience beyond the PhD degree and a desire to represent a dynamic group in its interactions with the rest of Molecular Genetics Research and the therapeutic discovery departments at Pfizer. Towards this end, you must have excellent oral and written communication skills.

In addition to a stimulating research environment and an excellent opportunity for professional recognition and advancement, we offer a competitive salary/benefits package and an opportunity to live in an attractive Connecticut shore community. Qualified applicants should submit their resume and references in confidence to: Dr. Jerry K. Larson, Assistant Director, Employee Resources, Pfizer Central Research, Eastern Point Road, Groton, CT 06340. An equal opportunity employer.



**The Agency for Toxic Substances and Disease Registry (ATSDR)** is part of the U.S. Public Health Service and is located in Atlanta, Georgia. The Agency's mission is to prevent or mitigate adverse human health effects and diminished quality of life resulting from exposure to hazardous substances in the environment.

**ATSDR** offers employees a unique opportunity to affect environmental health issues. The Agency is recruiting qualified people at all levels in the following disciplines:

**Toxicologists  
Environmental Health Scientists  
Medical Officers  
Epidemiologists  
Chemists  
Environmental Engineers**

Send resume or CV to:

**Agency for Toxic Substances and Disease  
Registry  
Attention: Recruitment, 03J  
1600 Clifton Road, N.E.  
Mailstop E28  
Atlanta, Georgia 30333**

**ATSDR** is an Equal Opportunity Employer and provides a smoke-free work environment.

## QUALITY ASSURANCE

### ANALYTICAL DEVELOPMENT

Miles Inc., Cutter Biological, located close to Raleigh, NC, is a world leader in the Human Plasma Fractionation industry. For a PhD or equivalent education in chemistry we are offering a position as **PRINCIPAL SCIENTIST**. 5-10 years of proven experience in Analytical, Biochemical or Pharmaceutical Chemistry, intensive knowledge and expertise in application of modern instrumental analytical techniques in Life Sciences and previous supervisory experience are required. Well founded knowledge of experimental design, statistical analysis and critical evaluation of experimental results is necessary. Work involves product characterization, analytical method development and troubleshooting. We offer a challenging opportunity for work within an interdisciplinary team of committed scientists. Miles is part of the Bayer worldwide organization. Send resume to: **Personnel Manager, MILES INC., P.O. Box 507, Clayton, NC 27520.** An



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## POSITIONS OPEN

**POSTDOCTORAL FELLOWSHIP.** For study of age-related changes in brain regulation of  $Ca^{2+}$ . Involves protein isolation, reconstitution, and cloning. Salary: \$22,000 to \$25,000 plus fringe. Background in protein purification and/or cloning required. Send curriculum vitae and the names of three references to: **M. L. Michaelis, Associate Professor of Pharmacology/Toxicology, Center for Biomedical Research, University of Kansas, 2099 Constant, Lawrence, KS 66047** by 4 May 1990. *We are an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOWSHIPS.** In hematology and oncology research: basic and clinical science in cell biology, molecular biology, biochemistry, immunology, and oncoparmacology for 2 to 3 years beginning July 1990 or 1991. NIH-supported. U.S. citizen or permanent resident with M.D. or Ph.D. eligible. Address correspondence to: **Drs. Robert Silber or Ronald Blum, New York University (NYU) Medical Center, 550 First Avenue, New York, NY 10016.** NYU Medical Center is an Equal Opportunity/Affirmative Action Employer.

**CELLULAR IMAGING, POSTDOCTORAL FELLOWSHIP.** A postdoctoral position is available 1 July 1990, in cellular imaging using UV and visible confocal microscopy. Optical tweezers will be used in conjunction with confocal microscopy to control and image intracellular organelles or probes. Candidates should feel comfortable with optics and computers. Competitive salary. Please send letter of interest, curriculum vitae, and names of three references to: **Dr. David Clapham, Department of Pharmacology, Mayo Foundation, Rochester, MN 55905.** An Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL FELLOWSHIPS.** Available 1 July 1990 in the Molecular Cardiology Research Unit of the University of Texas Southwestern Medical Center. Areas of special emphasis include transcriptional control, mitochondrial genetics, stress proteins, gene transfer technologies, and novel applications of transgenic animals in cardiovascular research. Candidates should hold Ph.D. or M.D. degrees and have prior research experience in molecular biology. Send curriculum vitae and three references to: **Dr. R. Sanders Williams, Chief of Cardiology, Department of Internal Medicine, Room G5.206, University of Texas Southwestern Medical School, Dallas, Texas 75235-9030.** The University of Texas Southwestern Medical Center is an Equal Opportunity Employer.

### RESEARCH BIOCHEMIST

U.S. Environmental Protection Agency (U.S. EPA), seeks a research biochemist to develop assays for hazardous and toxic substances at the Environmental Monitoring Systems Laboratory in Las Vegas (EMSL-LV). Responsibilities include evaluating methods to measure total body burden, specific metabolites, indicators of toxic exposure, and toxicants in environmental samples. The position requires hands-on laboratory skills, knowledge of biochemical techniques, proven ability to plan projects, and presentation skills. The position is a career federal appointment as a GS-12 (\$35,825 to \$46,571) or GS-13 (\$42,601 to \$55,381) and is open to civil service and non-government applicants; a Ph.D. is desired. Ranking factors include knowledge of analytical procedures, fate of toxic substances, and non-cancer endpoints. Application packages are available from: **U.S. EPA, Human Resources Office, P.O. Box 98516, Las Vegas, NV 89193-8516** until 18 May 1990. Applications must be received by 1 June 1990. *The U.S. EPA is an Equal Opportunity Employer.*

The University of California, San Diego, Department of Pediatrics, is seeking a recent Ph.D. applicant for a **POSTGRADUATE RESEARCHER (PGR).** Candidates should have experience in molecular biology or biochemistry. Candidate to study the regulation of gene expression of hepatitis B virus (HBV). Major goal is to identify the cellular proteins that interact with a liver-specific HBV enhancer and transactivate gene expression. Position available immediately for at least 2 years. Salary range based on University of California policy. Interested individuals should send curriculum vitae with a list of three references no later than 15 May 1990 to: **Jiing-Kuan Yee, Ph.D., Assistant Adjunct Professor, Department of Pediatrics, Center for Molecular Genetics, M-034, La Jolla, CA 92093.** Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

**POSTDOCTORAL FELLOWSHIP.** A fellowship position is available immediately for an individual interested in studying the mechanisms of single unit neuronal activity in behavioral integration. Specific projects include recordings in the basal ganglia during learned movements and the effects of excitotoxic lesions on network interactions. An active and diversified neuroscience community provides additional opportunities for interactions in a broad range of disciplines. The position will be supported by an NIH training grant in the Department of Neurology. *Applicants must be citizens, noncitizen nationals, or permanent residents.* Individuals on temporary or student visas are not eligible. Interested individuals should send curriculum vitae and three references to: **J. Wayne Aldridge, Department of Neurology, University of Michigan, 1103 East Huron, Ann Arbor, MI 48104-1687.** Equal Opportunity/Affirmative Action Employer.

### POSTDOCTORAL RESEARCH IN VIRAL IMMUNOLOGY

A postdoctoral fellowship is available to work on aspects of cell-mediated immunity in mice with influenza. An interest in T cell repertoire usage and/or lymphokine involvement would be an advantage. *Appointment is open to U.S. and international citizens. Affirmative Action/Equal Opportunity Employer.* Inquiries should be addressed to: **Dr. Peter C. Doherty, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38105.**

**RESEARCH ASSOCIATE.** Our group studies hippocampal function and synaptic modification. We seek an individual skilled in either: light or electron microscopy, extracellular electrophysiology, or neural modeling. Position available September 1990 for 3 years. Salary: \$20,000 to \$28,000 depending on experience. Send curriculum vitae and three references to: **W. B. Levy, Department of Neurosurgery, University of Virginia, Health Sciences Center, Box 420, Charlottesville, VA 22908.** Equal Opportunity/Affirmative Action Employer.

### RESEARCH ASSOCIATE

Research associate, theoretical atomic physics, to assess problems, develop and carry out research on multiphoton processes in ultrastrong fields, higher order and quantum electrodynamic effects, electron correlation. Ph.D. degree and 1 year of postdoctoral experience required. Salary: \$21,361 per year. Location: Eugene, Oregon. Apply by 21 May 1990 to: **Employment Division, Attention: Job Order Number 2418776, 875 Union Street, N.E., Room 201, Salem, OR 97311.**

Applicants with a Ph.D. in molecular biology with postdoctoral experience/master's degree in biology or biochemistry with at least 5 years of laboratory experience in protein chemistry and/or molecular DNA cloning and manipulation techniques are requested to apply for this **RESEARCH ASSOCIATE** position. The individual will be working as part of a research group focusing on developmental neuroendocrinology and will be involved in teaching and supervising the activities of other laboratory assistants, clinical fellows, and students besides being involved in developing certain techniques and carrying out parts of certain projects. Individuals who are interested should apply by sending a copy of their curriculum vitae and three reference letters to: **Dr. Sherin Devaskar, The Pediatric Research Institute, 3662 Park Avenue, St. Louis, MO 63110.** St. Louis University is an Equal Opportunity Employer, M/F/V/H.

**SURGICAL RESEARCHER.** The Department of Surgery and the Research Institute at The Mary Imogene Bassett Hospital, a major teaching affiliate of Columbia University, are seeking a Ph.D. to conduct basic surgical research in an area of general surgery. Laboratory space and initial support provided. Competitive salary, with a fine benefits package and academic appointment. Located in Cooperstown, New York, a rural four-season resort village with excellent schools and unusual recreational and cultural opportunities. Reply: **Michael S. Gold, M.D., Surgeon-in-Chief, The Mary Imogene Bassett Hospital, Cooperstown, NY 13326.** Telephone: 607-547-3968 or **Thomas A. Pearson, M.D., Ph.D., Director, Research Institute, The Mary Imogene Bassett Hospital, Cooperstown, NY 13326.** Telephone: 607-547-3045.

# Postdoctoral Researchers

## Molecular Immunology/Cell Biology/Biochemistry

Genentech, Inc. is a research and development company which utilizes recombinant DNA technology to produce pharmaceutical products for the treatment of a variety of human diseases. We have the following Postdoctoral Fellow positions available.

In our Inflammation and Connective Tissue Research Laboratory investigations are directed toward an understanding of cellular interactions in chronic inflammation and tissue remodeling. We seek a highly motivated individual to explore T lymphocyte specificity at sites of chronic immune-mediated inflammation. Studies will focus on delineating T cell antigen receptor usage, control of lymphokine production and T lymphocyte-fibroblast interactions. Candidates should possess a Ph.D. in Molecular Biology or Immunology and be well versed in molecular biology techniques. Dept. EA.

In our Pharmacology Laboratory a position is available to study signal transduction mechanisms of recombinant human growth hormone and/or other novel growth factors. Candidates should have background in biochemical pharmacology, biochemistry, or cell biology/physiology and have some experience in second messengers, calcium, protein phosphorylation or lipid biochemistry. Desirable techniques include HPLC, TLC, GC/mass spectroscopy, measurements of intracellular ions and/or pH, tissue culture or various cell preps. Dept. RJ.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume, indicating appropriate Dept., to Yvonne Davino, Human Resources, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. We actively support and promote affirmative action and equal opportunity employment. Women and minorities are encouraged to apply.

Genentech, Inc.  
Genentech, Inc.  
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Genentech, Inc.

U.S. Public Health Service  
National Institutes of Health  
National Cancer Institute  
Division of Cancer Treatment  
Developmental Therapeutics Program  
Laboratory of Biological Chemistry

## POST-DOCTORAL FELLOW (\$25,000 - \$28,000)

Position involves studies of the expression, post-translational modification and functions of specific HIV-I encoded and 20-25 kDa GTP binding proteins.

Candidates must have Ph.D. in molecular biology, biochemistry, microbiology or pharmacology. Experience in molecular biology or biochemistry desirable but not essential. Candidates may have no more than three years of post-doctoral experience.

For information, contact:

**Dr. Richard Kahn**  
National Cancer Institute  
National Institutes of Health  
Building 37, Room 5D-09  
9000 Rockville Pike  
Bethesda, MD 20892  
(301) 496-4116



U.S. Citizenship Not Required  
NIH is an Equal Opportunity Employer

# unigene

## SENIOR SCIENTISTS

Unigene Laboratories, a multidisciplinary biotechnology research corporation, is seeking qualified Senior Scientists in the following disciplines:

### IMMUNOLOGY

The successful candidate will have a Ph.D. degree in Immunology or a related field, with at least two years of postdoctoral experience and a record of accomplishment demonstrating novelty and creativity. Experience in cellular or molecular immunology is desirable.

### PROTEIN CHEMISTRY

The company is seeking a Ph.D.-level scientist with appropriate postdoctoral research experience. The candidate should have a strong background in general enzymology—experience in the purification and characterization of mammalian proteases is preferable. Familiarity with endothelial cell biology is also desirable.

Unigene offers excellent compensation, a comprehensive benefits package and the opportunity to work in an environment which fosters continued professional development. Please send a C.V. in confidence to:

### UNIGENE LABORATORIES, INC.

110 Little Falls Road  
Fairfield, N.J. 07004

# unigene

An equal opportunity employer

## Microbiologist Pharmaceutical Research

□ Alcon Laboratories, Inc. is the leading pharmaceutical manufacturer of products for the diagnosis and treatment of ophthalmic disorders and is headquartered in Fort Worth, Texas.

□ We currently have an opening in our R&D Division for a Research Fellow of Microbiology. The successful candidate will direct and manage our microbiology resources for pharmaceutical development and antimicrobial research and provide Alcon with a supply of patentable antibiotics, anti-infectives, contact lens disinfectants and antimicrobial preservatives for development into new products.

□ The ideal candidate should have a PhD in microbiology, 8-10 yrs of pharmaceutical experience, 5 yrs experience managing research programs (preferably those involving antimicrobial agents or therapy), and proven interpersonal and leadership skills and written and oral presentation abilities.

An Equal Opportunity Employer - M/F/H/V

Resumes to **Mr. Faver**  
**Alcon** Employment Dept. (T1-3)  
Alcon Laboratories, Inc.  
PO Box 6600  
Fort Worth, Texas 76115

## Senior Scientists/ Scientists/Technicians

Cell Genesys, a new biotechnology company located in the San Francisco Bay Area, is developing unique human therapeutic products based on the cellular genetic engineering technology of homologous recombination. This is a rare opportunity to participate in an early stage company developing a core technology for human health care. Candidates should have the following backgrounds:

**Molecular Biologists** Experience in biochemistry, molecular biology or molecular genetics with experience in molecular cloning and transfection of mammalian cells.

**Cell Biologists** Experience in isolation and growth of primary cells or development and growth of ES cell lines. A working knowledge of in vitro immunological assays and growth of T-cell clones is also desirable.

**Immunologists** Experience in cellular immunology including in vitro T-cell assays such as CML and MLR and familiarity with transplantation techniques.

**Transgenic Scientists** Experience in setting up and maintaining an animal facility directed towards the production of chimeric and transgenic animals.

Cell Genesys offers competitive salaries, excellent benefits and equity participation. For immediate consideration, please send your C.V., indicating positions of interest, to: Cell Genesys, 344A Lakeside Drive, Foster City, CA 94404. Cell Genesys, Inc. is an equal opportunity employer.

## CELL GENESYS, INC.



## Atherosclerosis Drug Research Scientist Postdoctoral Position

CIBA-GEIGY Pharmaceuticals Division, respected worldwide for innovative products to treat cardiovascular, inflammatory and other disorders, invests more than a million dollars a day in research.

Our Atherosclerosis Biochemistry Department at our 100-acre headquarters complex in Summit, NJ offers this postdoctoral opportunity. Research focus is on applying molecular biology techniques to the discovery of drugs to treat and prevent hyperlipidemia and atherosclerosis. Candidates must be experienced in molecular biochemistry and recombinant DNA techniques. Interest in protein expression and characterization is preferred.

We offer a competitive salary, excellent benefits and state-of-the-art facilities. Please send resume with salary history and requirements to: **Staffing Center, CIBA-GEIGY Corporation, Pharmaceuticals Division, Dept PJG, 556 Morris Avenue, Summit, New Jersey 07901.** We Are An Equal Opportunity Employer M/F/H/V.

Science Serving Mankind

# CIBA-GEIGY

National Institutes of Health

## NEUROCHEMISTRY FELLOWSHIP

National Institutes of Health, Public Health Service, Fellowship in Neurochemistry of Alzheimer's disease and Down syndrome. The Laboratory of Neurosciences at the National Institute on Aging, NIH, invites application for a Fellowship position to study the neurochemistry of Alzheimer's disease, Down syndrome and experimental models for these disorders. Postmortem brain tissue, as well as animal brain tissue, are examined. Cerebrospinal fluid is examined for peptides, neurotransmitters and their metabolites, and other biological substances, including hexoses, polyols and amino acids. Brain tissue is examined for these substances, as well as for the distribution and local concentration of appropriate receptors. The applicant should be experienced in appropriate analytical techniques, e.g., HPLC, GC-MS, enzymatic assays, RIA, as applied to human or animal biological fluids and tissue, and should have a strong background in biochemistry. Position is located in Bethesda, MD and salary is commensurate with qualifications. Send Curriculum Vitae and 2 letters of reference to:

**Dr. Stanley I. Rapoport, Chief  
Laboratory of Neurosciences  
National Institutes of Health  
Building 10, Room 6C-103  
9000 Rockville Pike  
Bethesda, MD 20892**



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# PhD Scientists

Merck Sharp & Dohme Research Laboratories has openings at the staff and postdoctoral levels for scientists with exceptional records of scientific accomplishment.

**POSITION 1** is for an experienced biophysically oriented enzymologist to characterize biochemical systems relevant to cardiovascular disease in our anticoagulant and thrombolytic programs. The selected candidate should have a Ph.D. and at least three years of experience as an independent investigator in the field of enzymology and/or molecular biology.

**POSITION 2** is for an experienced investigator to characterize interactions of integrins. The selected candidate should have a Ph.D. and scientific contributions in the area of membrane bound proteins.

**POSITION 3** is for a biophysicist to characterize biochemical systems relevant to viral expression. The selected candidate should have a Ph.D. and be experienced in the area of macromolecular interactions.

**POSITION 4** is for a postdoctoral fellow with predoctoral training in biophysics and biochemistry. The selected candidate will collaborate with senior scientists in biophysical studies of proteins involved in blood coagulation.

**POSITION 5** is for a postdoctoral fellow with predoctoral training in biochemistry or in cellular and molecular biology. The selected candidate will collaborate with senior scientists in studies of the molecular basis for the regulation of expression of proteins involved in blood coagulation.

Excellent salary and benefit programs accompany these positions at our modern research facilities located 25 miles northwest of Philadelphia. Please send resume to: **Manager, Research Personnel A-12, W42-2, Merck Sharp & Dohme Research Laboratories, West Point, PA 19486.** An equal opportunity/affirmative action employer m/f/v/h.



# Merck & Co., Inc.

Sandoz Crop Protection, a company widely recognized for excellence in agricultural research and development, has openings in its Biologicals and Plant Biotechnology Groups in Palo Alto.

**Scientist II, Biologicals, #90-309 RS:** Will be responsible for project determining the influence of plasmid loss/gain upon *Bacillus thuringiensis* physiology and insecticidal activity. Requires an MS in microbiology or bacteriology with excellent background in plasmid and protein analysis.

**Scientist II, Biologicals, #90-306 CC:** Microbial screening from environmental sources for uses in biological insect control. Includes method development, bioassay evaluation and report writing. MS in microbiology or plant pathology and up to two years experience in the area of protein structure/function relationships. Background in plant sciences desirable.

**Sr. Scientist, Plant Biotechnology, #89-350:** Will be responsible for designing and conducting innovative research studies on protein targeting, stability and structure/function relationships in a program aimed at crop improvement through biotechnology. This entry-level PhD position requires a degree in molecular biology or biochemistry and one to four years of postdoctoral experience in the area of protein structure/function relationships. Background in plant sciences desirable.

Our new research facility is located near Stanford University. We provide a challenging work environment with opportunity for professional growth. For consideration, send resume with a letter of interest to:

**Sandoz Crop Protection**  
Human Resources Department  
975 California Avenue  
Palo Alto, CA 94304-1104  
AA/EOE



## ABBOTT LABORATORIES

Abbott Laboratories is a Fortune 100 corporation, devoted to the discovery, development, manufacture, sale and distribution of diverse health care products. Currently, we offer the following opportunity within our Pharmaceutical Products Division.

### TOXICOLOGIST

The selected candidate will review toxicology reports and protocols, act as consultant for related divisions, and prepare toxicology summaries for IND and NDA FDA submissions. The qualified individual will also be expected to make presentations internally and to FDA on toxicology data. We require a toxicology related Ph.D., with at least 3-5 years broad-based toxicology experience within the pharmaceutical industry. Board certification and experience with the FDA is preferred.

Abbott is located in an attractive suburban setting 30 miles north of Chicago. We provide competitive compensation and benefits including a profit sharing and a stock retirement plan. For consideration, please send your resume to: **Patricia Handy, Corporate Placement, Job #4153, Abbott Laboratories, One Abbott Park Rd., Abbott Park, IL 60064.** (To facilitate handling, please indicate Job Number on your cover letter or resume.) Abbott is an Affirmative Action Employer.

**ABBOTT LABORATORIES**



## BIOTECHNOLOGY SCIENTISTS

The Bristol-Myers Squibb Company Industrial Division, a leader in biotechnology and a major international manufacturer of pharmaceutical products, has two research opportunities in its Biological Process Development Group in Syracuse, New York. The Biological Process Development Group is rapidly expanding with a new protein recovery and purification facility currently under construction.

### Senior Scientist — Protein Purification

We are seeking a scientist to be responsible for developing purification processes suitable for pilot plant scale production of quality therapeutic proteins. The scope of projects includes therapeutic monoclonal antibodies, recombinant proteins and enzymes. The position offers high visibility and excellent career advancement opportunity.

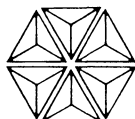
To qualify, the successful candidate must have a PhD in Biochemistry, Chemistry, or Protein Chemistry with postdoctoral experience in purification and analysis of proteins. Industrial experience in scale-up of laboratory purification processes to the pilot plant and cGMP operations is highly desirable.

### Associate Scientist — Molecular Biology

Responsibilities include the development of microbial strains that produce increased titers of current antibodies through molecular manipulation or enzymes for biotherapeutics and bioconversions.

The successful candidate needs a BS or MS in Molecular Biology or related discipline and a strong background in gene cloning. Additional experience in molecular biology of fungal microorganisms is desirable.

Bristol-Myers Squibb offers excellent salaries and comprehensive benefits. For prompt, confidential consideration, forward your resume indicating position of interest, salary history and requirements to: **MANAGER OF EMPLOYMENT**



**BRISTOL-MYERS SQUIBB COMPANY INDUSTRIAL DIVISION**

P.O. Box 4755, Syracuse, New York 13221-4755

An equal opportunity employer M/F/H/V

## POSITIONS OPEN

**RESEARCH ASSOCIATE.** Two positions available at the levels of postdoctoral fellow or junior faculty, M.D. or Ph.D. degree. Background in cell biology or molecular biology required, particularly in mechanisms of signal transduction, regulation of transcription or immunocytochemical localization, and in situ hybridization. To join ongoing studies on a newly described IL-1 receptor antagonist from human monocytes. Salary dependent upon level of training and experience. Interested candidates should send curriculum vitae and three references to: **William P. Arend, M.D., Department of Medicine, Box B-115, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, CO 80262.** Equal Opportunity/Affirmative Action Employer.

## DRUG METABOLISM RESEARCH SCIENTIST

Rorer Central Research, a division of Rorer, Inc., a worldwide ethical pharmaceutical company, has an immediate opening for a qualified research scientist.

The expansion of the role of our Drug Metabolism Department in drug discovery has necessitated an urgent need for this qualified individual. Good communication and interaction skills are required to effectively apply innovative approaches towards selection and design of new chemical entities (NCEs). Primary responsibilities will include developing novel techniques for determining dispositional characteristics of NCEs, designing and conducting in vitro and in vivo metabolism studies, and providing metabolism input towards drug discovery.

Qualified candidates should have a Ph.D. in biochemistry or pharmacology or a related field with 1 to 2 years of postdoctoral experience in drug metabolism research. Prior experience must include in vitro and in vivo metabolism studies using state-of-the-art molecular and biochemical techniques. Familiarity with bioanalytical techniques including HPLC, TLC, and radiometric techniques is desired.

Qualified candidates should respond to: **Position No. 90R-037, Rorer Central Research, 640 Allendale Road, King of Prussia, PA 19464.** Equal Opportunity Employer.

## POSITIONS OPEN

**RESEARCH ASSOCIATE.** For college in northern Ohio. Research and development on compounds known to have chemopreventive action against cancer-causing agents (carcinogens), particularly ellagic acid. Research will focus on enhancing the solubility, and hence bioavailability, of such compounds. Testing the effectiveness of these chemopreventive compounds against lung, liver, and esophageal cancer. Must have Ph.D. in pharmaceutical biology. No experience needed in above duties, but 2 years of experience in microbiology and cancer research, specifically including the metabolism and pharmacokinetics of carcinogens required. Forty hours per week, 8 a.m. to 5 p.m., Monday to Friday; \$29,000 per year. Must have proof of legal authority to work permanently in the United States. Send résumé in duplicate (no calls) to: **J. Davies, JO# 1119623, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

## RESEARCH ASSOCIATE BIOCHEMIST AND/OR JUNIOR FACULTY POSITION

Multidisciplinary group interested in developing novel therapeutic strategies for melanoma therapy based on cytotoxic melanin precursors seeks a Ph.D. chemist/biochemist with experience related to melanin synthesis, intermediary metabolism, or anti-melanoma pharmaceutical development. Unique opportunity for creative scientists to work independently and in collaboration with a team of organic chemists, biochemists, and cell biologists in a well-funded laboratory with modern facilities for synthetic, organic, and radiosynthetic chemistry; analytical biochemistry; tissue culture; and in vivo animal studies. Competitive salary commensurate with education and experience. *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.* Interested applicants should send curriculum vitae to.

**William D. Bloomer, M.D.**  
Professor and Chairman  
Department of Radiation Oncology  
University of Pittsburgh  
230 Lothrop Street  
Pittsburgh, PA 15213

## POSITIONS OPEN

**RESEARCH CHEMIST.** To develop methods for use of off-angle spinning and static spectra to assess multiring cluster sizes in materials; extend applications of these techniques to related problems of petroleum resid and black oil processing; conduct research on saturated and aromatic rings, and oxygen, nitrogen, and sulfur containing groups in coal and shale organic matter; devise new approaches to achieve most accurate NMR (nuclear magnetic resonance) responses; interpret results obtained by theoretical and correlative analysis and determine course of action; perform tests and take measurements throughout stages of testing to determine degree of control over variables such as temperature, density, specific gravity, and pressure; apply knowledge of solid-state NMR spectroscopy to elucidation of structural features of coal and shale kerogens and of cokes derived from these renditions of above; prepare research findings and publish results. Ph.D. in chemistry required as well as 2 years of experience in job offered or 2 years of experience as graduate research assistant. Applicants must have utilized high resolution solid-state nuclear magnetic resonance in fossil fuel science research as demonstrated through a patent or publication in a professional journal or presentation at a scientific conference. Forty hours, 9:00 a.m. to 5:00 p.m., \$38,700 per year. Send résumé to: **Illinois Department of Employment Security, 401 South State-3 South, Chicago, IL 60605, Attention: Robert S. Felton, Reference #V-IL-1296-F.** Employer-paid ad.

**RESEARCH OPPORTUNITIES** at the National Center for Toxicological Research (NCTR). Opportunities for faculty and postgraduates to conduct research at NCTR, a Food and Drug Administration laboratory in central Arkansas. Research efforts focus on testing the assumption used in assessing risks posed by toxic chemicals emphasizing studies in biomarkers, modulators of toxicity, and extrapolation/risk assessment. *U.S. citizenship or PRA status required.* Contact: **Research Participation at NCTR, Science/Engineering Education Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117.** Telephone: 615-576-3190. Please indicate faculty and/or postgraduate program.



## Faculty Positions in Pharmacology/Toxicology Wayne State University College of Pharmacy and Allied Health Professions Department of Pharmaceutical Sciences

The Department of Pharmaceutical Sciences is seeking candidates for a tenure track position available immediately in pharmacology/toxicology with focus on neuropharmacology/toxicology, behavioral pharmacology/toxicology, or immunopharmacology/toxicology. Persons with demonstrated expertise in applied biotechnology are especially urged to apply. Candidates will be expected to establish an active graduate research program in their respective areas and vigorously pursue the support of such programs through extramural funding. Teaching at both the graduate and undergraduate levels is also expected. Applicants should possess a Ph.D. degree in pharmacology, toxicology, immunology, or related disciplines and have postdoctoral experience. Eligibility is limited to U.S. citizens and permanent residents. Rank and salary commensurate with experience.

Interested persons should send a curriculum vitae, a description of research interests, and the names of three references to:

**Dr. Hanley Abramson, Chair**  
Department of Pharmaceutical Sciences  
College of Pharmacy and Allied Health  
Professions  
Room 528, Shaper Hall  
Wayne State University  
Detroit, MI 48202

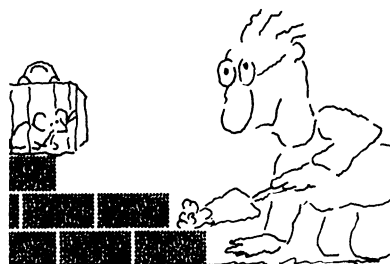
*An Affirmative Action/Equal Opportunity Employer.  
Minorities and women are encouraged to apply.*

## RESEARCH SCIENTISTS WANTED:

State Department of Health Services (DHS) is recruiting for Research Scientists I, II, III, & IV for a civil service examination. Minimum qualifications start with graduation from college and one year postgraduate education in a field relevant to environmental epidemiology or public health environmental biochemistry to possession of doctoral degree and four years of professional research experience in a field of medical specialization relevant to environmental epidemiology (for Research Scientist IV). If interested, please send your resume to the Department of Health Service, Health Hazard Assessment Division, 714 P Street, Room 460, Sacramento, CA 95814, ATTN: Donna Rowe.



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Simply write us a letter stating the specifics about your proposed lab and the instruments and supplies you need. We will do the rest. Write to:

**SCIENCE Magazine**  
New Lab Service Department  
1515 Broadway  
New York, NY 10036

The Global Weekly of Research  
**SCIENCE**



National Institutes of Health, National Institute on Aging

## Fellowships in the MOLECULAR NEUROBIOLOGY OF ALZHEIMER'S DISEASE

Fellowships are available in the newly formed Molecular Neurobiology Unit of the National Institute on Aging located at the Gerontology Research Center in Baltimore, Maryland. Research will be focused on gene expression in the aging CNS and in neurodegenerative disease, including studies of the molecular basis of neuropathology and the role of growth factors in the amelioration of age-related neuronal atrophy. Applicants should have a background in molecular biology, cell biology and/or neuroscience. Experience in modern molecular biological techniques is preferred, but not essential.

Send curriculum vitae, statement of research interests, and the names of three references to:

**George R. Martin, Ph.D.**  
Scientific Director, NIA  
Gerontology Research Center  
4940 Eastern Avenue  
Baltimore, Maryland 21224



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## RESEARCH ASSOCIATE Toxicology Testing

At Baxter Healthcare Corporation, our commitment to R&D is evident in our Applied Sciences group, where state-of-the-art facilities and top-of-the-line employees come together. Today this division of the Fortune 75 Baxter Healthcare Corporation is seeking a Research Associate to assist with *in vivo* toxicology testing of newly developed products.

The selected individual will have a recent Ph.D. with postdoctoral experience or equivalent, in *in vivo* toxicology or a related field. Responsibility would include study management, protocol/report preparation, data review and interpretation and hands-on study activities.

In addition to a challenging environment, Baxter can offer a competitive salary and comprehensive benefits, including 401(k) and stock purchase. For confidential consideration, please forward your curriculum vitae with salary history to: **Pam Miller, Human Resources Director (WG1-1N)**, Baxter Healthcare Corporation, Technology Park, Rte. 120 & Wilson Road, Round Lake, IL 60073. Equal Opportunity Employer.

# Baxter

## Postdoctoral Research Fellowships

The Parke-Davis Pharmaceutical Research Division of Warner-Lambert has initiated a multidisciplinary postdoctoral research program which will provide excellent opportunities to conduct basic studies in areas of potential therapeutic utility. The following Fellowships are currently available:

### Fellowship Q

#### Population Pharmacokinetics

The Fellow will conduct population-based pharmacokinetic analyses of data generated in a wide variety of clinical settings. These analyses will be used to establish standard procedures for the conduct of future studies as well as for the management and analysis of data and validation of results. Thus, the successful applicant will need to interact with pharmacokineticists, statisticians and clinical data management personnel as part of a loosely knit, multidisciplinary working group.

Applicants should have a Ph.D. in the statistical or pharmaceutical sciences, a working knowledge of the IBM MVS/TSO operating system and environment, SAS, NONMEM, NMTRAN and PREDPP as well as a familiarity with relational database management systems, preferably ORACLE.

### Fellowship R

#### Molecular Pharmacology of Growth Factor Antagonists

This Fellow will work in the Cancer Research Section of the Department of Experimental Therapy. The aim of this project is to characterize the growth factors involved in proliferation of human intestinal cells and of colon carcinomas, and to study the effects of growth factor antagonists and inhibitors of the associated signal transduction pathways.

Applicants should have a Ph.D. in Biochemistry, Cell Biology or Molecular Biology.

### Fellowship S

#### Growth Regulation in Normal and Malignant Colonic Mucosa

This Fellow will work in the Cancer Research Section of the Department of Experimental Therapy, and will conduct *in-vitro* and *in-vivo* studies on new classes of drugs directed at treatment of colorectal carcinoma, using biochemical pharmacological and cytokinetic techniques.

Applicant should have a Ph.D. in Tumor Biology, Biochemistry or Pharmacology, and some tissue culture experience is desirable.

All appointments are for one year, renewable for a second year. Compensation includes \$32,000 annual salary with relocation expenses and an attractive benefits package. Our modern research facilities are located adjacent to the University of Michigan in an outstanding living and working environment.

Send letter of application with curriculum vitae and names of three references to **Jack Moyer, Human Resources, PARKE-DAVIS Research Division, Warner-Lambert Company, 2800 Plymouth Road, Ann Arbor, MI 48105**. Please indicate the Fellowship you are applying for. "Smoke-Free Work Environment"

"Equal Opportunity In Action"



## PARKE-DAVIS

A DIVISION OF **WARNER-LAMBERT**

## POSTDOCTORAL POSITIONS

NATIONAL INSTITUTES OF HEALTH  
PHOENIX, ARIZONA

Positions are available now and in spring or fall of 1990 for recent Ph.D.s or M.D.s to participate in studies of the molecular biology and genetics of insulin resistance in a diabetes-prone human population. These molecular studies focus on several PROTEIN KINASES and PROTEIN PHOSPHATASES that are regulated abnormally by insulin in skeletal muscle of insulin-resistant subjects. Expertise in cDNA library construction and screening, oligonucleotide probe design, polymerase chain reaction, restriction mapping, and DNA sequencing is essential.

Curriculum vitae, letter of application, and names, addresses, and telephone numbers of three references should be sent to either:

Dr. Clifton Bogardus  
or  
Dr. James Sommercorn  
National Institutes of Health  
4212 North 16th Street  
Room 541  
Phoenix, Arizona 85016  
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## POSTDOCTORAL OPPORTUNITIES

Harvard Medical School  
and  
Joslin Diabetes Center

## Molecular Mechanisms and Biology of Insulin and Growth Factor Signalling

Applications are invited from candidates with Ph.D. or M.D. degree and expertise in recombinant DNA technology, peptide and protein chemistry, mammalian cell biology or yeast biology who are interested in joining the research groups of:

C. Ronald Kahn, M.D.  
Barry J. Goldstein, M.D., Ph.D.  
Mary R. Loeken, Ph.D.  
Heimo Riedel, Ph.D.  
Steven E. Shoelson, M.D., Ph.D.  
Robert J. Smith, M.D.  
Morris F. White, Ph.D.

Please send curriculum vitae, a 1-2 page summary of your scientific background and interests, reprints and abstracts (where available) and the names and addresses of three references or call Heimo Riedel, Ph.D., Elliott P. Joslin Research Laboratory, Joslin Diabetes Center, One Joslin Place, Boston, Massachusetts 02215, Telephone (617) 732-2691.

An Affirmative Action/Equal Opportunity Employer

## POSITIONS OPEN

**SUPERVISORY CHEMIST/ENVIRONMENTAL SCIENTIST.** This is an Environmental Protection Agency position assigned to the Office of Pesticide Programs, Environmental Fate and Ground Water Branch, in Arlington, Virginia. This position is responsible for the planning and management of scientific issues on the protection of ground water, and serves as a national expert on the issue of pesticides in ground water. Review pesticide leaching and ground monitoring studies in support of pesticide registration, develop guidelines for such studies, and work on cooperative projects with EPA laboratories and other agencies. Experienced in pesticide chemical environmental fate, soil chemistry, and hydrogeology.

Please submit SF-171 (Application for Federal Employment) and list of college courses to:

U.S. Environmental Protection Agency  
Office of Pesticide Programs  
Environmental Fate and Effects Division  
401 M Street, S.W., H7507C  
Washington, DC 20460  
Contact: Rachelle Jones  
Telephone: 703-557-0469

All applications must be postmarked no later than 11 May 1990. The salary range for this position is \$42,601 to \$65,444.

## THEORETICAL NEUROBIOLOGY

The Neurosciences Institute (NSI) invites applications for positions as INSTITUTE FELLOWS in Theoretical Neurobiology. The NSI supports an inhouse research program dedicated to developing experimentally testable theoretical models of neural systems. Current models include simulations of pharmacological effects on neuronal networks, the design of network automata, and analysis of visual systems. Advanced supercomputer facilities are available.

Institute Fellows are appointed for 2 years with the possibility of renewal, and receive stipends that depend on qualification and experience. Applicants should be at the postdoctoral or assistant professor level, and must have a background in experimental or theoretical neuroscience or related fields.

The NSI is an independent organization located on the campus of The Rockefeller University in New York City. The NSI serves as the home of the Neurosciences Research Program and is an international center of study and research for distinguished visiting neuroscientists. Fellows have opportunities to use the Institute's extensive facilities and to interact with visiting scientists.

Applicants should send a short statement of research interests, curriculum vitae, and the names of three references to: Dr. W. Einar Gall, Research Director, The Neurosciences Institute, 1230 York Avenue, New York, NY 10021.

## SITUATIONS WANTED

**BIOCHEMIST**, Ph.D. Experience: protein/enzyme purification, HPLC, FPLC, IEF, SDS-PAGE, Western blotting, autoradiography, ELISA, and clotting assays. Seeking R&D position. Box 32, SCIENCE.

**ELECTRON MICROSCOPIST**, M.S. cell biology. Protistology, neuroscience, and diagnostic EM. TEM, SEM, immunocytochemistry; autoradiography; image analysis; laboratory management and administration. Box 19, SCIENCE.

**MICROBIOLOGIST**, Ph.D. Isogenic *Bacillus subtilis*, thermophile grows 50°-70°C, mesophile 20°-55°C, isogenic mesophilic/thermophilic facultative anaerobes. Seeks position developing thermophilic bacteria for biotechnologies. Mary L. Droffner, Ph.D., 2432 Aspen Street, Philadelphia, PA 19130.

## MEETINGS

### 1990 A. N. RICHARDS SYMPOSIUM

Cellular Mechanism of Protein Sorting and Processing: general protein sorting mechanisms, hormone and protein processing enzymes, protein sorting and regulation, secretory granules, and lysosomes. 9 and 10 May 1990, Philadelphia, Pennsylvania. Sponsored by Physiological Society of Philadelphia.

For information, contact: Dr. Amir Pelleg, telephone: 215-448-8235.

## MEETINGS

### BIOMEDICAL HORIZONS OF THE LEECH

International Conference in Charleston, South Carolina, 24 to 28 October 1990. Biological, clinical, and pharmaceutical aspects of leeches will be the focus. Special sessions on hirudin and hementin and advances in their genetic engineering will be included. Sponsored by Biopharm USA Ltd. Call: ACCESS Conferencing, 800-942-9114, for more details.

## COURSES AND TRAINING

### SHORT-TERM GENETIC SEQUENCE COMPUTER ANALYSIS TRAINING FELLOWSHIPS

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## MARKETPLACE

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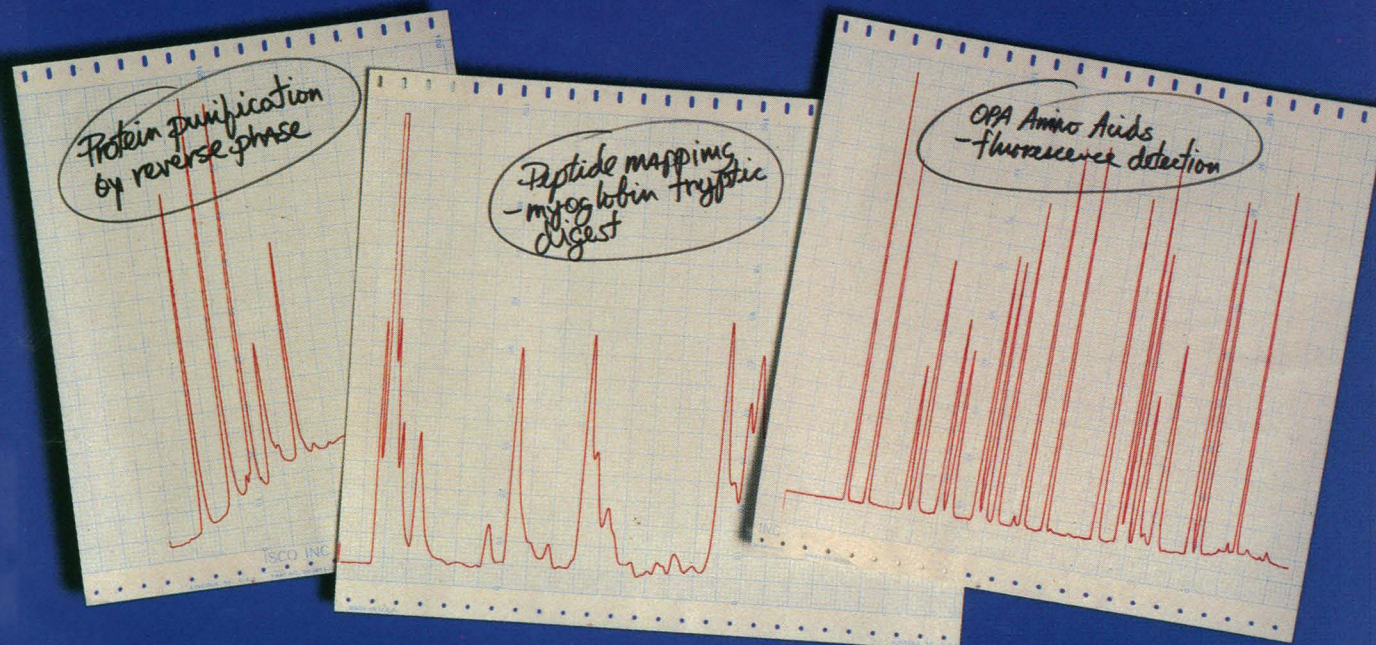
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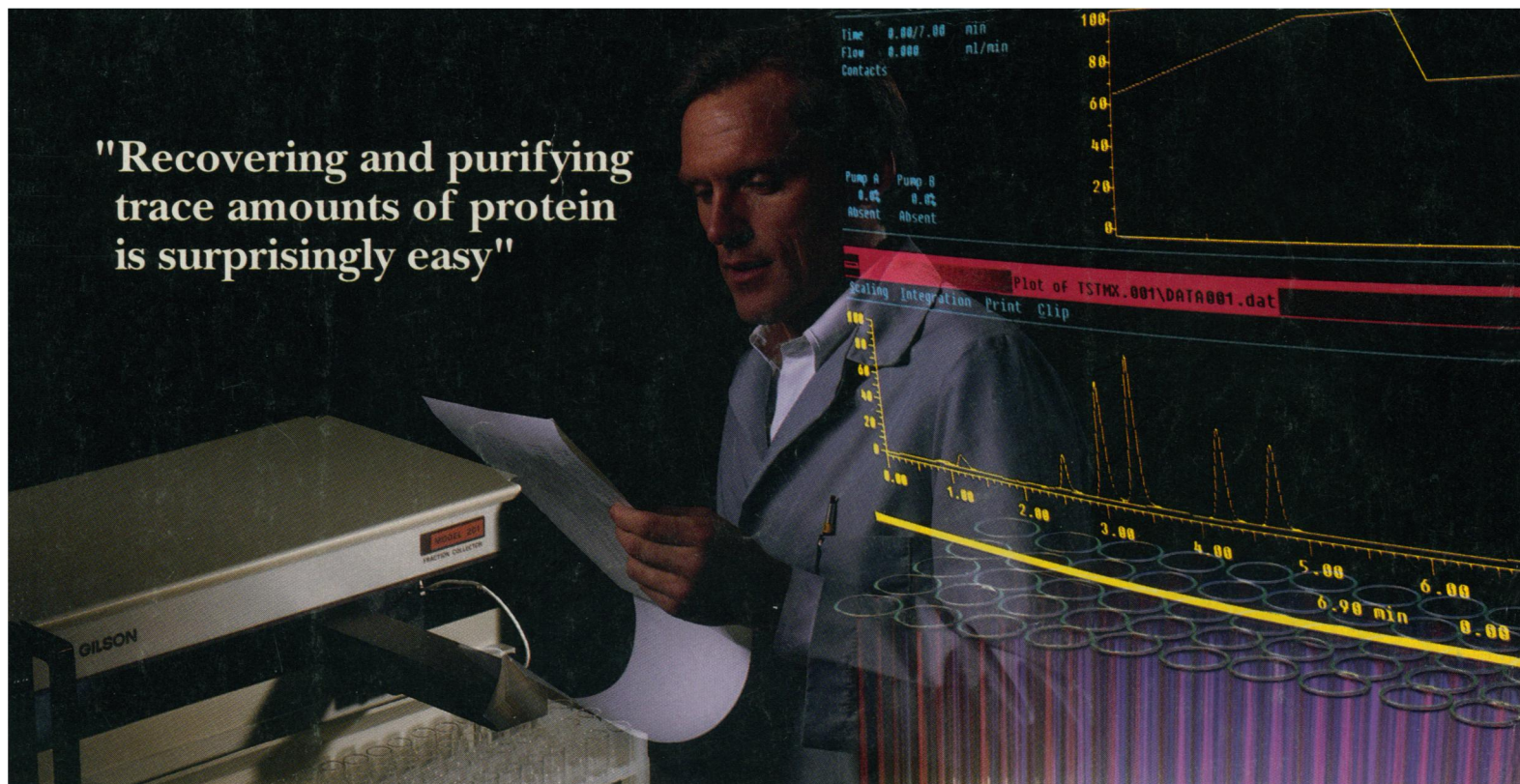
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**"Recovering and purifying trace amounts of protein is surprisingly easy"**



## Chromatographers speak out about the Gilson Auto-Prep HPLC system

The Gilson Auto-Prep HPLC system has one pump for mobile phase delivery, another for repetitive sample injection. And that, according to a chromatographer in radiation oncology and cancer research, makes it surprisingly easy to recover trace amounts of protein from complex sample matrices. Repetitive injection of small volumes of sample allows the use of high-efficiency analytical or semi-prep columns for high throughput, excellent resolution, and very pure fractions.

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A pharmaceutical QC lab supervisor likes the capacity and reliability of the system. A multimode fraction collector with 120- or 540-tube capacity is the key. The collector—either the Gilson 201 or 202—has a stationary rack design. Unlike collectors with carousel racks, it won't jam. The collector acts as a system controller, and multicycle capability allows collection of fractions from the repetitive runs into the same set of tubes for automated sample purification.

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After method development with an analytical system, many labs switch to preparative scale sample purification. Or switch back and forth to perform purity checks. With Gilson HPLC pumps, you simply replace the pump head to change the flow rate. Eight interchangeable pump heads offer flow rates as high as 200 ml/min.

### **"It's a compact system that saves bench space"**

The Gilson Auto-Prep system is made up of modular components. The basic system stack, including the detector and pumping modules, has a footprint of about one square foot. And the 201 fraction collector offers 120-tube capacity in an equally compact space.

### **"Upgrading to gradient analysis was easy"**

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