

Software for Collaborating Across Networks

New publishing software enables project teams to collaborate easily on the creation of publication-quality documents across computer networks. Called Xerox Docubuild, the software is designed to help in the creation of medium and large multiauthor documents such as product manuals, technical proposals, scientific reports, and regulatory filings. DocuBuild supports numerous text, graphics, and data formats. It allows users in different locations to access and modify documents across computer networks, manage work flow, and simultaneously review all aspects of a publishing project. Xerox Corp. Circle 436.

Micropurification of Biomolecules

The SMART system is a micropurification process for the isolation of nanogram and microgram quantities of large- and medium-sized biomolecules with high recovery and preservation of biological activity. The system provides sensitivity down to 1 ng, high resolution with single-peak fraction collection down to 5 μ l, high recovery of small amounts of sample, trace enrichment capabilities, and a wide range of techniques for separation strategies. The high-quality separations are achieved with the use of a range of small-dimension, prepacked chromatography columns for a variety of techniques. Pharmacia LKB. Circle 439.

Data Plotting Software

Version II of EasyPlot for IBM and compatible personal computers lets the user view and manipulate large sets of numbers graphically. New features for Version II include expanded memory and a windowing system that simplifies working with multiple graphs

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.

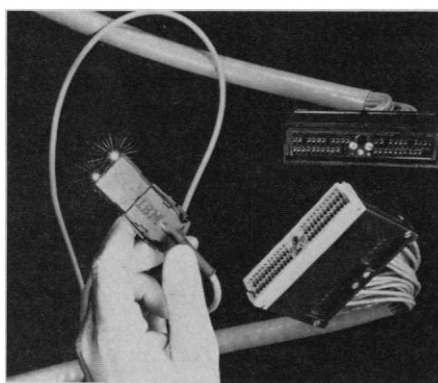
at one time. EasyPlot can handle more than 100,000 points without having to shuttle data to and from disk. Text-based and graphical editors have been added to offer complete flexibility in adding, deleting, or adjusting data points. A new curve-fitting algorithm works with any user function (of up to 20 unknowns) and displays a real-time animation of the fitting process. Other new features include dual axes, bar charts, and three-dimensional scatter plots that can rotate in real time. Spiral Software. Circle 441.

Protein A Kit for Sample Preparation

The Econo-Pac protein A kit simplifies purification of monoclonal antibodies from ascites fluid, serum, or tissue culture fluid. The kit contains everything necessary to purify monoclonal antibodies, including a prepacked Econo-Pac A column; four prepacked Econo-Pac 10DG desalting columns for quick and effective sample preparation; and binding, elution, and regeneration buffers. The kit allows purification of all immunoglobulin G (IgG) subclasses, including murine IgG₁, from ascites fluid. Bio-Rad Laboratories. Circle 440.

Fiber-Optic Computer Connections

Enterprise Systems Connection (ESCON) Architecture, featuring wide-band, high-speed fiber-optic channels, allows users to interconnect computer systems over miles instead of a few hundred feet. Processors and their input-output devices, such as



disks, tapes, and display controllers, can be placed as far apart as 9 km, allowing customers to build campus-wide computing systems. The fiber-optic ESCON channels transfer data between host computers or between a host and a controller at up to 10 megabytes per second, more than twice the speed of copper cable parallel channels. IBM. Circle 450.

Antibody Purification and Conjugation Service

Serotec offers a complete antibody purification and conjugation service. The company can conjugate antibodies or fragments to *Rhodymenia phycoerythrin*, horseradish peroxidase, and fluorescein isothiocyanate. Serotec. Circle 443.

Pulsed-Field Grade Agarose

Stratagene's new pulsed-field grade agarose allows resolution of DNA fragments from 4.4 kb to more than 5.7 Mb. The strength of the gel matrix prevents breakage at agarose concentrations as low as 0.6%. At these low concentrations, DNA fragments migrate 5 to 10% faster than on other pulsed-field agaroses. Stratagene. Circle 444.

Long-Neck Pipettes

Finnpipette Digitals are made for aspirating from and dispensing into long-necked laboratory vessels. The pipettes have a special streamlined design, with the tip ejector forming part of the long tip cone rather than being separate. This design enables the user to insert the pipette farther into a vessel. An extra long (78 cm) and thin tip with a volume range of 0 to 200 μ l is available. This tip fits the 0.5- to 10- μ l, 5- to 40- μ l, and 40- to 200- μ l pipettes. LabSystems Oy. Circle 445.

Literature

Oxford Labware Clinical Catalog contains such products as tissue-embedding medium, analyzer cups, specimen containers, specialized chemistries and controls, and more than 200 others. Oxford Labware. Circle 463.

Liquid Chromatographic Determination of PAHs in Environmental Samples is a 12-page application note on high-speed determination of polynuclear aromatic hydrocarbons (PAHs) with a diode array detector. Perkin-Elmer. Circle 464.

Products for Biotechnology Research is a 24-page catalog describing products for gel electrophoresis, including submarine gel systems, new systems for protein and sequencing gels, and a new line of power supplies. Jordan Scientific. Circle 507.

Centrifugal Vacuum Concentrators describes the new RC10.22 microprocessor-controlled instrument for sample concentration and preparation. Jouan. Circle 508.

Personnel Placement

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.

LINE CLASSIFIED ADVERTISEMENTS

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 publication.

CLASSIFICATION: **SCIENCE** publishes line classified ads under the following headings: **Positions Open, Employment Agencies, Situations Wanted, Courses and Training, Meetings, Announcements, and Marketplace.** Advertisers should specify classification desired; however, **SCIENCE** reserves the right to decline classification requests which it believes may be misleading to readers.

SUBMISSION: Prepare double-spaced typewritten ad copy on a separate sheet. On cover sheet, state name and telephone number of contact person, desired date(s) of publication, and billing information, including any special invoicing requests. Mail or FAX to:

SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005
Telephone: 202-326-6555
FAX: 202-682-0816

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.)

PREPAYMENT DISCOUNT: A 3% cash discount is granted to all prepaid line ads. Prepayment in U.S. dollars by checks drawn on U.S. banks is required for all foreign ads.

CREDIT CARDS: **SCIENCE** accepts MasterCard and VISA. Both personal and corporate cards may be used. The prepayment discount does not apply to credit card ads.

BOXES AND LOGOS: Any 1-column line classified ad can be boxed and/or published with logo. No extra production charge for use of box or logo. For boxed ads, one line equals 48 characters and spaces; two additional lines will be added to cost of ad to allow for top and bottom rules. Logos are billed according to number of lines needed to accommodate logo.

CANCELLATIONS: Deadline for cancellations is 10 a.m. Tuesday, 10 days prior to issue date.

DISPLAY PERSONNEL ADVERTISEMENTS

For rates, deadlines, and information about fractional display ads (1/6 page and larger) and all Marketplace listings of available products and services, contact:

Scherago Associates, Inc.
1515 Broadway
New York, NY 10036
Telephone: 212-730-1050
FAX: 212-382-3725

RESPONSES TO EMPLOYMENT ADS

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, non-discrimination policies, visa requirements, and cultural differences in the country advertising for employees.

To reply to a blind box ad, address correspondence to

Box (give number)
SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005

POSITIONS OPEN

ASSISTANT PROFESSOR (PROTEIN BIOPHYSICAL CHEMIST)

The Department of Pharmaceutical Chemistry (Pharmaceutics) at The University of Kansas invites applications for a tenure-track position starting 15 August 1991. Applicants should be experiment-oriented chemists or biochemists who can apply modern physicochemical techniques to study protein structure.

Applicants are expected to possess, by the time of hire, a Ph.D. degree in pharmacetics, biochemistry, chemistry, or a closely related area. Preference will be given to applicants with educational background and research experience in the pharmaceutical sciences. Applicants should have a demonstrated ability to communicate effectively, a genuine interest in teaching, and have shown exceptional research capability and potential. The faculty member will have teaching responsibilities at the undergraduate and graduate levels and will be expected to develop a strong, independent research program.

Applications should include curriculum vitae, letters from three references, and a short statement of future research interests. Applications received by 15 February 1991 will receive first consideration. However, applications will be accepted until 1 May 1991 and will be reviewed monthly. Send applications to:

Dr. Ronald T. Borchardt
Department of Pharmaceutical Chemistry
3006 Malott Hall
The University of Kansas
Lawrence, KS 66045

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

ASSISTANT PROFESSOR, TENURE TRACK

The University of Minnesota has an immediate need in general obstetrics with undergraduate/graduate teaching duties, full patient care/call duties, and an interest in developing clinical research programs.

Qualifications: assistant professor (tenure track), M.D., completed obstetrics/gynecology residency, demonstrated involvement in quality research, competence in communications and teaching. Contact:

Dr. Linda Carson
Chairperson, Search Committee
University of Minnesota
Department of Obstetrics/Gynecology
Box 395, UMHC
420 Delaware Street, S.E.
Minneapolis, MN 55455

Last date for receipt of applications is 31 March 1991.

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

MOLECULAR BIOLOGIST

The Department of Pathology at the University of Pittsburgh School of Medicine is seeking a Ph.D. molecular biologist to fill a new position. Appointment will be at the **ASSOCIATE PROFESSOR** level. Applications are sought from individuals with an established record of research achievements, including external funding in microbiology/virology including human papilloma virus. The anticipated date of appointment is 1 July 1991. Applications should be sent to: **Trevor A. Macpherson, M.D., Chief of Pathology, Magee-Womens Hospital, Forbes Avenue and Halket Street, Pittsburgh, PA 15213.**

The University of Pittsburgh School of Medicine is an Equal Opportunity Employer.

The Cancer Immunobiology Center and Department of Microbiology, University of Texas (UT) Southwestern Medical School, has a position for an **ASSISTANT PROFESSOR** who will teach medical and graduate students and postdoctoral fellows, and perform research with group to develop new approaches to the biology and therapy of lymphoid tumors, including the development of genetically engineered reagents. Requires M.D. or Ph.D., 2 years of postdoctoral fellowship, major research achievements in molecular engineering of antibody molecules, antigen-specific receptors on T-cells and their expression. Send curriculum vitae, cover letter, letter of reference, and statement of interests to: **Ellen S. Vitetta, Ph.D. (Attention: Farrys Wood), UT Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9048. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR BIOLOGY (F90/91-11)

Required: Ph.D. and be qualified to teach ornithology, embryology, and general biology. Deadline for applications: 15 March 1991. The duties will commence 1 September 1991. Salary: \$27,000 plus depending on qualifications and experience. Submit curriculum vitae, copies of recent representative publications, and arrange to have three letters of reference sent to: **Dr. Robert Lonard, Chairman of the Search Committee, Department of Biology, The University of Texas Pan American, 1201 West University Drive, Edinburg, TX 78539-2999. Equal Opportunity Employer.**

MEDICAL PARASITOLOGIST

The Division of Parasitology in the Department of Preventive Medicine at the University of Mississippi Medical Center invites applications for a tenure-track faculty position at the rank of **ASSISTANT PROFESSOR** beginning fall 1991. A Ph.D. is required, preferably with postdoctoral training. Activities include teaching parasitology with ample time for research. Send curriculum vitae, description of research, and three letters of recommendation to: **Dr. William B. Lushbaugh, Department of Preventive Medicine, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216. Equal Opportunity/Affirmative Action Employer, M/F/H/V.**

ASSISTANT PROFESSORS, CELL BIOLOGY.

The Cell Biology and Anatomy Department of the Mount Sinai School of Medicine is recruiting tenure-track assistant professors in cell biology. A major research focus of the department will concern intracellular protein translocation, vesicular transport, and membrane and organelle assembly, approached with molecular and genetic techniques. We are particularly interested in yeast as an experimental organism, and in studies of fundamental cellular processes which when defective are known to cause human diseases. Freshly renovated space and extensive research support facilities are presently available. Ph.D.'s with demonstrated research prowess should send curriculum vitae, one-page summary of research plans, recent publications, and the names, addresses, and telephone numbers of three references to: **Dr. Paul B. Lazarow, Chairman, Cell Biology and Anatomy, Box 1007, The Mount Sinai School of Medicine, Fifth Avenue and 100th Street, New York, NY 10029-6574. An Equal Opportunity Employer. Women and minorities are encouraged to apply.**

COMMUNITY ECOLOGIST

The Department of Biological Sciences, a doctoral department of 30 faculty and 80 graduate students, invites applications for anticipated tenure-track position in ecology (complementing strengths in ecology/evolution) at the **ASSISTANT PROFESSOR** level. Postdoctoral experience and experience with multivariate data sets preferred. Responsibilities include establishing extramurally funded research program, advising Ph.D. and M.S. students, and discipline-related teaching. Review of applications begins 1 March 1991 and continues until position is filled. Send résumé, statement of research interests, reprints, and names of three references to: **R. D. Noble, Chair, Department of Biological Sciences, Bowling Green State University, Bowling Green, OH 43403. Affirmative Action/Equal Opportunity Employer.**

PHARMACOLOGY AND TOXICOLOGY

The Department of Pharmacology and Toxicology at the Philadelphia College of Pharmacy and Science (PCPS) anticipates the availability of a tenure-track faculty position at the rank of **ASSISTANT PROFESSOR** beginning 15 August 1991. A Ph.D. degree and 2 years of postdoctoral training are required. Responsibilities will include teaching pharmacology and/or toxicology to graduate and undergraduate students. Candidates are expected to develop an independent research program supported by extramural funding. Applicants with research interests in all areas of pharmacology and toxicology will be considered. Deadline for applications is 31 March 1991. Candidates should submit curriculum vitae, statement of research goals, and the names of three references to: **Search Committee Chair, Department of Pharmacology and Toxicology, Philadelphia College of Pharmacy and Science, Woodland Avenue at 43rd Street, Philadelphia, PA 19104. PCPS is an Equal Opportunity/Affirmative Action Employer.**



Wayne State University

FACULTY POSITION IN PHARMACOLOGY/TOXICOLOGY, COLLEGE OF PHARMACY AND ALLIED HEALTH PROFESSIONS, WAYNE STATE UNIVERSITY. The Department of Pharmaceutical Sciences is seeking candidates for a tenure track position available immediately in pharmacology/toxicology. Ongoing projects in the Department include work in neuropharmacology, immunopharmacology, heavy metal toxicology, cell matrix interactions, and xenobiotic metabolism. 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. Qualified candidates should send a curriculum vitae and the names and addresses of three references to: Hanley N. Abramson, Ph.D., Chair, Department of Pharmaceutical Sciences, College of Pharmacy and Allied Health Professions, 528 Shaper Hall, Detroit, MI 48202. Wayne State University is an Equal Opportunity/Affirmative Action employer. Minorities and women are encouraged to apply.

POSITION AVAILABLE ASSISTANT/ASSOCIATE PROFESSOR TRANSFUSION MEDICINE DEPARTMENT OF LABORATORY MEDICINE & PATHOLOGY UNIVERSITY OF MINNESOTA

A faculty position is available in transfusion medicine at the rank of assistant (tenure track) or associate (tenured) professor, depending on qualifications. Candidates for assistant professor must have demonstrated involvement in quality research accepted or published in peer-reviewed journals; those for associate professor must have professional distinction in research and writing and demonstrated effectiveness in teaching and advising. Minimum requirements are M.D., eligible for licensure in state of Minnesota, board eligible or certified in clinical pathology with blood banking fellowship or one year experience in clinical pathology. Candidates should have experience in transfusion medicine and immunohematology.

Responsibilities will include didactic teaching of residents, blood bank fellows and graduate students. Candidates will conduct an independent research program in one or more areas of blood banking such as red blood cell serology or chemistry, platelet serology and transfusion, neutrophil structure, function or serology; apheresis, bone marrow donation or transplantation, histocompatibility, transfusion transmitted diseases, etc. This position will assist with the medical management of the University Hospital Blood Bank.

Deadline for receipt of applications is March 31, 1991. Applicants please send curriculum vitae, names of three references and a brief synopsis of recent activities to:

Transfusion Medicine Search Committee
Department of Laboratory Medicine
and Pathology
Box 198 UMC, 420 Delaware St. S.E.
Mpls, MN 55455

The University of Minnesota is an equal opportunity educator and employer, and specifically invites and encourages applications from women and minorities.

POSITIONS OPEN

ASSISTANT PROFESSOR nontenure track or **POSTDOCTORAL RESEARCH SCIENTIST.** Position available for research on the molecular and cell biology of membrane protein biosynthesis and sorting. Experience in molecular biology will be helpful as we isolate cDNA's and genes involved in post-Golgi membrane transport. Rank of appointment will be commensurate with prior training and experience. Submit curriculum vitae, a summary of prior research and interests, and references to: **David S. Papermaster, M.D., Professor and Chairman, Department of Pathology, The University of Texas Health Science Center at San Antonio, San Antonio, TX 78284-7750. Telephone: 512-567-4007. FAX: 512-567-6729. An Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR MOLECULAR VIROLOGY/BIOLOGY VETERINARY MOLECULAR BIOLOGY

Tenure-track faculty 80% research position (12 months) supported by full-time technician and seed money. Salary: \$34,000 to \$40,000 per year based on experience and qualifications. Ph.D. or Ph.D./D.V.M. required; research interests in a modern area of molecular virology, although other areas of molecular biology are encouraged to apply. Applicants should have postdoctoral experience, record indicating ability to perform independent research, and potential to establish competitive, extramurally funded research program. Willingness to collaborate with other faculty and participate in active graduate program essential. Send curriculum vitae, letter describing research interests and goals, and arrange for three letters of recommendation to be sent to: **Chair, Search Committee, Veterinary Molecular Biology, Marsh Laboratory, Montana State University, Bozeman, MT 59717-0360.** Screening begins 20 February 1991 and continues until suitable candidate is hired. *Veterans preference. Equal Opportunity/Affirmative Action Employer.*

POSITIONS AVAILABLE, POSTDOCTORAL through **ASSISTANT PROFESSOR** level. Gene expression and structure in colon cell differentiation and transformation. Forward résumé and names of references to: **Leonard H. Augenlicht, Ph.D., Director, Molecular Oncology Program, Albert Einstein Cancer Center, Montefiore and Albert Einstein Medical Centers, 111 East 210th Street, Bronx, NY 10467.**

ASSOCIATE PROFESSOR (12 MONTHS, TENURED) DEPARTMENT OF NUTRITION SCIENCES UNIVERSITY OF ALABAMA AT BIRMINGHAM (UAB)

Responsibilities include conduct of research and education of graduate students in the area of energy metabolism. Applicants must be M.D., Ph.D., or equivalent with expertise in studies of energy metabolism, particularly in use of a room indirect calorimeter and must have proven track record of generating grant support. Send curriculum vitae and summary of research interests to: **Dr. Roland Weinsier, Chairman, Department of Nutrition Sciences, 1629 University Boulevard, Birmingham, AL 35294.** *The University of Alabama at Birmingham administers its educational programs and activities, including admission, without regard to race, color, religion, sex, age, national origin, handicap, or Vietnam era or disabled veteran status. (Title IX of the Education Amendments of 1972 specifically prohibits discrimination on the basis of sex.)* Direct inquiries to the **UAB Affirmative Action Officer, The University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294.**

The Department of Biology at Georgia State University invites applications for a **PROFESSOR OF BIOLOGY** with expertise in microbial chemistry and genetics. Candidates should have at least 10 years of research experience beyond postdoctoral training. Candidates should have experience and exceptional research credentials as evidenced by records of publications and extramural funding. The successful candidate is expected to maintain a strong and competitively funded research program and to teach at the undergraduate and doctoral levels. Applications, including curriculum vitae, reprints, a statement of research plans, and three letters of reference, should be sent to: **Chairman, Department of Biology, Georgia State University, P.O. Box 4010, Atlanta, GA 30302-4010.** Search will continue until successful candidate is selected. *Georgia State University, a unit of the University System of Georgia, is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PROFESSOR AND DEPARTMENT HEAD. The University of Arkansas invites nominations and applications for the position of professor and head of the Department of Plant Pathology, College of Agriculture and Home Economics at Fayetteville. The department head is responsible for providing administrative leadership to the research and teaching programs in the Department of Plant Pathology and coordination of departmental contributions to the extension program in Arkansas and will serve as a member of the Arkansas State Plant Board. Duties include administrative and fiscal responsibility for departmental personnel, programs, and physical resources; leadership in maintaining departmental goals, program planning, faculty development, and solicitation of extramural funding; and coordination of interactions with other university programs, professional and government agencies, industry groups, and off-campus research facilities. Applicants must have a Ph.D. in plant pathology or a closely allied discipline, experience in developing and implementing effective plant pathology programs, and demonstrated ability to interact with the diverse group of persons and agencies involved with the department. Applications are due 1 March 1991 and must include a letter stating interest and qualifications including professional goals, approach to leadership, and challenges facing the discipline over the next decade; professional vitae; and names and addresses of five references. Submit applications or nominations to: **W. C. Yearian, Chair, Search Committee, 321 Agriculture Building, University of Arkansas, Fayetteville, AR 72701.** *The University of Arkansas is an Affirmative Action/Equal Opportunity Employer.*

PROGRAM DIRECTOR

A position is available for a Ph.D. virologist to establish a new program at ViroMed Laboratories. The selected candidate will be responsible for establishing and managing studies relating to experimental antiviral compounds during development. Experience with established antiviral susceptibility testing methods and the capability of developing new assay systems are required. Excellent compensation includes participation in the company's ESOP program. ViroMed Laboratories is a rapidly growing private company involved in diagnostic virology, production and national distribution of cell cultures, and specialized testing for national agencies and private industries. Send curriculum vitae to: **Bonita L. Baskin, Ph.D., Laboratory Director, ViroMed Laboratories, Inc., 5500 Felt Road, Minnetonka, MN 55343.**

An Affirmative Action/Equal Opportunity Employer.

ATTENTION SCIENCE ADVERTISERS \$40 SPECIAL

Place your classified ad in any February 1991 issue of *Science* and we'll give you double exposure. We'll display the same position announcement at the **AAAS Employment Exchange** for only \$40 more. That's less than the cost of one additional line.

Hurry—place your ads now! The **Employment Exchange** will take place at the **AAAS Annual Meeting, 15 to 18 February 1991**, at the Washington Sheraton Hotel in Washington, D.C. Thousands of scientists in various disciplines have been invited to participate. Act fast and you can reach this unique pool of candidates.

When you place your classified ad in *Science*, simply let us know that you want to take advantage of the \$40 Special and we'll do the rest.

For information on how you can interview candidates on-site, call **J. Roberts at 202-326-6737.**



POSITIONS OPEN

ADMINISTRATOR. For scientific society. Challenging position in organizational operations. Includes general administration and staff support for committees. Requires dedicated, detail-oriented person with undergraduate degree (graduate degree preferred), excellent writing and communications skills, and ability to handle multiple projects. Familiarity with computers essential; experience with data base management or BASIC helpful. Send résumé, writing sample, and desired salary range to: P.O. Box 54335, Philadelphia, PA 19105.

PROGRAM DIRECTOR NATIONAL RESEARCH INITIATIVE COMPETITIVE GRANTS PROGRAM U.S. DEPARTMENT OF AGRICULTURE

The National Research Initiative Competitive Grants Program (formerly Competitive Research Grants Office), USDA, seeks a qualified scientist to serve as program director for grant review and administration in the areas of food safety and human nutrition. Candidates must have a Ph.D. or equivalent with major study in food, nutrition, or related disciplines.

Closing date is 25 February 1991. For further information on this full-time, permanent position, contact: Dr. Rosemary R. Grady, NRICGP, Room 323E Aerospace Building, 901 D Street, S.W., Washington, DC 20250-2200. Telephone: 202-401-6234. For information on application procedures/forms, contact: Ms. Kathy Asmussen, Personnel Staff Specialist, 202-475-4811. USDA is an Equal Opportunity Employer.

MOLECULAR SYSTEMATIC ICHTHYOLOGIST

The Department of Systematics and Ecology and the Museum of Natural History seek applicants for a 12-month, tenure-track **ASSISTANT PROFESSOR AND ASSISTANT CURATOR** in the area of molecular systematics of fishes to start 1 January 1992. Required qualifications include: Ph.D. upon assumption of position; training or demonstrated competence in ichthyology; knowledge of modern systematic theory and techniques; specialized training or demonstrated competence in one or more aspects of molecular/biochemical systematics; evidence of ability to carry out a vigorous and productive research program in systematic ichthyology emphasizing (but not limited to) molecular/biochemical techniques; familiarity with and/or willingness to learn curatorial procedures, especially as they relate to frozen tissue collections; commitment to excellence in research, undergraduate and graduate training and teaching; evidence of ability to communicate ideas effectively. Applications should include curriculum vitae; copies of recent publications, grant applications, and/or manuscripts; a statement of teaching interests; and three letters of recommendation postmarked by 15 February 1991. A full position description is available on request. Contact: Dr. E. O. Wiley, Museum of Natural History, University of Kansas, Lawrence, KS 66045. Telephone: 913-864-4038 or 864-4540. Equal Opportunity/Affirmative Action Employer.

ICHTHYOLOGIST/SYSTEMATIC BIOLOGIST

The Field Museum of Natural History is seeking an outstanding systematic ichthyologist to fill a career-track appointment in the Department of Zoology at the level of **ASSISTANT CURATOR**. The ichthyology collection contains more than 1.6 million specimens contained in 120,000 lots, with types of more than 1,410 nominal species. The collection is currently staffed with a curator, collection manager, and assistant. The successful candidate will: (i) have or be about to receive a Ph.D., and (ii) have demonstrated a productive research and field program in systematic or evolutionary ichthyology. In addition to developing and maintaining an innovative research program, responsibilities include curation of the fish collection. The potential exists for participating in graduate and undergraduate training at the University of Chicago and the University of Illinois at Chicago. A statement of research objectives is requested in which candidates discuss current and future directions of their research, and how their research addresses broader conceptual issues in biology. Please send by 30 March 1991, curriculum vitae, copies of publications, the statement of research objectives, and three letters of recommendation to: Search Committee, Department of Zoology, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605. The Field Museum of Natural History is an Equal Opportunity Employer. Women and minorities are strongly encouraged to apply.

BIOTECHNOLOGY

DIRECTOR OPPORTUNITY

DEPARTMENT OF INFECTIOUS DISEASES PCR DIVISION

Cetus Corporation, a leader in the development and design of PCR, has an opening in the Diagnostics Research Program for an experienced professional with an infectious disease background. This senior position will be responsible for a large department of scientists who specialize in molecular virology. The Diagnostics Research Program is involved, in collaboration with Hoffman-La Roche, in the design and development of diagnostic applications of the Polymerase Chain Reaction (PCR) in the areas of infectious disease, genetic disease and cancer.

The successful candidate will have a PhD or MD with strong research credentials, 10 years' experience in infectious diseases and a minimum of 5 years managing a multi-disciplinary and competitive research program.

Cetus offers competitive salaries, excellent benefits and a collaborative environment that encourages innovation. Please send your CV to Cetus Corporation, Human Resources Department, Box IFDAJL, 1400 Fifty-Third Street, Emeryville, CA 94608. EOE.



MOLECULAR BIOLOGY ASSOCIATE Animal Cell Expression

The Upjohn Company, located in Kalamazoo, Michigan, is seeking applicants for the position of Research Associate in our Molecular Biology Research Group. A B.S. or M.S. degree in Biology, Biochemistry, Microbiology or a related science plus several years of experience with animal cell expressions/molecular biology techniques are needed. The selected candidate will assist a scientist in our neurobiology research program and utilize techniques such as transfection of animal cells, northern/southern blotting and tissue culture of established cell lines. Experience with methods such as nucleic acid hybridization and standard recombinant DNA techniques are desirable.

In addition to an opportunity for professional career growth, we offer a highly competitive salary and benefits package commensurate with experience and expected contribution. We are located in Kalamazoo, a southwestern Michigan community midway between Chicago and Detroit, offering an excellent mix of cultural and recreational opportunities. For confidential consideration please submit your resume, cover letter and transcripts to: THE UPJOHN COMPANY, CORP. RECRUITING/POSITION 5734-HA, 7000 PORTAGE ROAD, KALAMAZOO, MI 49001-0199.

Our Commitment to Scientific Excellence Continues...

Upjohn

POSITIONS OPEN

ASSOCIATE CHAIRMAN FOR CLINICAL RESEARCH DEPARTMENT OF INTERNAL MEDICINE NORTHEASTERN OHIO UNIVERSITIES COLLEGE OF MEDICINE

Administrative research position. Responsibilities include coordinating clinical research within the Department of Internal Medicine and facilitating research capability at multiple clinical sites. Serves as liaison between hospital coordinators and faculty at the basic sciences and clinical campuses. Works directly with the chairman and the Research Council of the department. Requirements: Ph.D. preferred with experience in previous clinical and/or basic research; grant proposal writing, IRB approval and administrative experience; qualifications for research track faculty appointment. Excellent communication skills and a demonstrated dedication to research required. Send curriculum vitae indicating position and department and three letters of recommendation by 1 March 1991 to: **Dr. André Ognibene, c/o Office of Human Resources, Northeastern Ohio Universities College of Medicine, P.O. Box 95, Rootstown, OH 44272.** An Equal Opportunity/Affirmative Action Employer.

PUBLIC INFORMATION COORDINATOR.

For scientific society in Philadelphia. Challenging position in public affairs and relations for professional with excellent writing and communications skills. Responsibilities include liaison with government officials, scientists, lay persons, and the media. Relevant experience needed. Knowledge of congressional activities, media operations, public relations, biomedical science, or fund-raising preferred. Send résumé, writing sample, and desired salary range to: **P.O. Box 54335, Philadelphia, PA 19105.**

DIRECTOR, TOXICOLOGY. Direct and perform toxicity studies of new pharmaceuticals, chemicals, and pesticides on a contract research basis for American, European, and Japanese drug companies on laboratory animals. Studies must meet national and international regulations governing safety testing of potential new products. Prepare and review scientific reports. Design new contract research facility. Recruit toxicologists and technicians. Design research protocols. Implement quality assurance program and oversee budgeting. Supervise 20+ people. Must have Ph.D. in toxicology and 10 years of experience as a director, toxicology, or as a toxicologist, contract research. Prior experience required in toxicology contract research laboratory and working with drug companies and government regulatory authorities. Prior development of a viable commercial toxicology laboratory from initial design to profitable operation required. Must have expertise in toxicity studies to meet national and international regulations governing safety testing and in design of research protocols. Forty hours per week, 7:45 a.m. to 4:30 p.m.; \$125,000 per year. Mail résumé and copy of ad to: **DEED, 1100 North Eutaw Street, Room 212, Baltimore, MD 21201, J.O. # 9047007.** Job location: Frederick, Maryland. *Proof of legal right to work in the United States required.*

BIOCHEMIST

The National Fisheries Contaminant Research Center (NFCRC), U.S. Fish and Wildlife Service (USFWS), Columbia, Missouri, is recruiting for a biochemist with interest and experience in biochemical toxicology focusing on aquatic organisms. Candidates with a background in molecular biology and/or biochemical biomarkers are preferred; however, those with expertise in the areas of fish physiology, aquatic toxicology, or environmental toxicology will also be considered. The position is **SECTION LEADER** responsible for designing and conducting investigations into contaminant-related dysfunctions in fishes. The incumbent will have substantial freedom to develop a research program within his/her area of expertise and is expected to collaborate on laboratory and field research teams. Candidates with a Ph.D. and professional experience are preferred. The position will be filled at GS-12 or GS-13 depending on qualifications and experience. The salary range is \$37,294 to \$44,348. Those interested should send a letter and curriculum vitae to: **Ms. Arlene Schwab, USFWS, NFCRC, 4200 New Haven Road, Columbia, MO 65201** by 15 February 1991 requesting application instructions. We will advise you where to send your formal application and the application process.

For additional information about the position, contact: **Acting Chief Biologist, NFCRC, 314-875-5399.**

POSITIONS OPEN

DEAN OF THE COLLEGE OF AGRICULTURAL AND LIFE SCIENCES AND DIRECTOR OF THE EXPERIMENT STATIONS UNIVERSITY OF WISCONSIN- MADISON

The University of Wisconsin-Madison is the original University of Wisconsin, and is one of the largest land-grant universities in the United States.

The College of Agricultural and Life Sciences, including its School of Natural Resources as well as a number of basic science departments, offers undergraduate and graduate instruction in a wide range of specialties keyed to research, business, industry, communications, education, conservation and natural resources, production, and technical assistance. The dean serves as director of the Experiment Stations and is chief academic and executive officer of the college with responsibility for staffing, budget, curriculum, student academic affairs, and space. The dean is also responsible for program coordination with Extension. There are approximately 1200 graduate students and 2000 undergraduate students. The dean/director supervises a faculty and professional staff of approximately 1200 and a budget of approximately \$90 million.

Major qualifications for the position include a proven record of administrative skills and successful leadership in higher education, academic accomplishments as a scholar and teacher that meet the standards for a tenured appointment at the rank of full professor in the University of Wisconsin-Madison faculty, and a commitment to maintain and expand undergraduate and graduate instruction, research, public service, and outreach activities.

The position is available 1 July 1991. All applications and nominations received by 1 March 1991 will be considered. Later applications and nominations may be considered. Submit applications and nominations to: **Professor Jack Gorski, Chair, Search and Screen Committee, The University of Wisconsin-Madison, 134 Bascom Hall, 500 Lincoln Drive, Madison, WI 53706. Telephone: 608-262-3956.**

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

EPITHELIAL CELL BIOLOGIST

The Department of Anatomy announces a tenure-track **FACULTY POSITION** for an epithelial cell biologist to join our renal cell biology group. Applicants should have a good publication record with emphasis in any aspect of the regulation of differentiated cell function or renal tubular cytodifferentiation and kidney organogenesis, including: cell-matrix interactions, transmembrane signaling, membrane trafficking, cell polarity, ion/fluid transport, cell proliferation, or epithelial response to injury. The successful candidate will participate in lecture/laboratory team-taught histology. Send curriculum vitae, research statement, and the names of three referees to: **Dr. David B. Burr, Chairman, Department of Anatomy, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46202-5120.** Will begin 15 February 1991 and continue until the position is filled; the position is expected to be filled by July 1991. *Indiana University is an Affirmative Action/Equal Opportunity Employer, M/F.*

NSERC-WOMEN'S FACULTY AWARD

The University of Victoria, Department of Biochemistry and Microbiology, invites applications for a Natural Sciences and Engineering Research Council of Canada (NSERC) Women's Faculty Award. Applications from female Canadian citizens/landed immigrants in biochemistry, microbiology, immunology, and molecular biology will be considered. Postdoctoral experience is required. Send curriculum vitae, description of research interests, and names and address of three referees to: **Dr. Rozanne Poulson, Department of Biochemistry and Microbiology, University of Victoria, P.O. Box 3055, Victoria, British Columbia, Canada V8W 3P6.** Deadline for applications is 31 March 1991.

POSITIONS OPEN

BARD COLLEGE BIOLOGY DEPARTMENT DIRECTOR, GRADUATE SCHOOL OF ENVIRONMENTAL STUDIES

Bard College is seeking a broadly trained scientist for a half-time, tenure-track position in the Biology Department and a half-time administrative position as director of summers-only, interdisciplinary master's of science in environmental studies program. Teaching responsibilities include two undergraduate laboratory courses per year and summer graduate courses. We are seeking a qualified scientist with expertise in comparative or environmental physiology who can teach an undergraduate course in general physiology, a graduate course in ecology, and develop courses in other areas of his/her interest. Candidates are expected to show evidence of successful teaching, research, scholarship, and administrative ability. Starting date is 15 June 1991. Application deadline is 1 March 1991.

Send letter, curriculum vitae, and names of three references to: **Dr. William T. Maple, Biology Department, Bard College, Annandale-on-Hudson, NY 12504.**

Bard College is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION, VIROLOGIST UNIVERSITY OF MIAMI SCHOOL OF MEDICINE

The Department of Microbiology and Immunology at the University of Miami School of Medicine invites applications for tenure-track faculty positions at either the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Individuals are sought with established research expertise in virology, with emphasis in the area of molecular virology. All applicants who wish to be considered for the position at the level of associate professor should have an established, funded research program; applicants who wish to be considered at the assistant professor level should have several years of postdoctoral experience and a commitment to establishing an externally funded, independent research program. Quality research facilities, start-up funds, and salary will be provided to the appointee. Applicants should have a Ph.D., M.D., or equivalent degree. The appointee will be expected to participate in graduate and medical training programs. Interested applicants should send current curriculum vitae, a statement describing research achievements and future research goals, and the names of three references to: **Virology Search Committee, University of Miami School of Medicine, Department of Microbiology and Immunology (R-138), P.O. Box 016960, Miami, FL 33101.** The review of applications will continue until the positions are filled. *The University of Miami is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN VIROLOGY

The Department of Veterinary Microbiology and Parasitology invites applications for an **ASSISTANT/ASSOCIATE PROFESSOR** level position in virology.

The successful candidate will be expected to participate in teaching infectious disease courses to veterinary students and in the instruction and direction of graduate students. It is expected that this individual will develop a strong research program in the areas of his or her specialty. The department is well equipped and currently has active research programs in molecular and medical virology, immunology, and parasitology. Infectious disease research has been identified in the strategic plan of the college as a research priority and will receive support commensurate with this status. Strong collaborative research arrangements are in place with other life science departments on the Louisiana State University campus and are encouraged. Applicants must have a Ph.D. or D.V.M./Ph.D. degree in virology. Postdoctoral experience in contemporary aspects of virology and animal virology, in particular, would be beneficial. Preference will be given to individuals with strong record of research accomplishments. Interested individuals are encouraged to send a letter of interest, curriculum vitae, and three references to: **Dr. T. R. Klei, Chairman of Virologist Search Committee, Department of Veterinary Microbiology and Parasitology, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA 70803.** Application deadline is 24 March 1991 or until a suitable applicant is identified. *Louisiana State University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

Glaxo Inc. will occupy in 1991 a new 1.5 M square foot Research and Development complex in Research Triangle Park, North Carolina. The Glaxo Research Institute, on relocating to this new R&D complex, will focus on expanding programs. As a result of this expansion, we are seeking Scientists for the following positions:

SENIOR SCIENTIST **Fermentation**

The individual for this position will be responsible for establishing and supervising our fermentation facility. The duties will include scale-up and optimization of fermentation processes using rDNA-derived microorganisms. This position involves responsibility for close interactions with molecular biologists and protein chemists. The successful candidate will have a Ph.D. degree in Microbiology or Biochemical Engineering and a minimum of 3-5 years' experience in the daily operation of a fermentation facility. A working knowledge of expression systems, mammalian cell culture, and bioreactor operation would be beneficial. **Job# 9126X003**

SENIOR RESEARCH INVESTIGATOR **Protein X-ray Crystallography**

Applicants for this position should have a Ph.D. and 5-8 years' experience in supervising and running a successful laboratory as evidenced by a distinguished record of achievement in solving protein structures by X-ray crystallography. **Job# 9141X603**

SENIOR SCIENTIST **Protein X-ray Crystallography**

The appointment at this position will be made from candidates with a Ph.D. in protein crystallography and 1-3 years' post doctoral experience. **Job# 9141X604**

The Senior Research Investigator and Senior Scientist will be required to operate the X-ray crystallography laboratory. The laboratory is equipped with two Siemens rotating anodes, array detector, robot for crystallization studies and a dedicated Silicon & Graphics 380 workstation. The protein crystallography group is part of the molecular structure group and is being formed to complement groups already established in protein NMR, computational chemistry, molecular modeling, biological mass spectrometry and protein sequencing. The X-ray crystallography group is supported by a first-rate computer environment which provides access to a CRAY YMP-432 supercomputer and a variety of high end workstations including a PS390 graphics system.

SENIOR RESEARCH INVESTIGATOR **Protein Biochemistry**

An experienced Senior Scientist is required to direct and manage a team of scientists whose responsibilities are to develop new methodologies for isolation, purification and characterization of recombinant proteins. The responsibilities of the individual and his group require close interactions with scientists in molecular biology and biophysical chemistry. Qualified applicants for this position must have a Ph.D. in biochemistry or related field and 5-8 years post-doctoral experience. Candidates for this position should have research expertise which should include structure-function studies, enzymology, receptor biochemistry, and a strong interest in developing methods for isolation, purification and characterization of recombinant proteins. **Job# 9130**

Our Research Triangle Park, N.C. location (near Raleigh, Durham and Chapel Hill) offers a lot more for people who seek a well-rounded, comfortable lifestyle. This world famous scientific, industrial, and academic community affords access to respected universities, beautiful residential areas, major retail centers, excellent health care and abundant cultural and recreational facilities. Join Glaxo and enjoy an excellent salary, flexible benefits, an on-site recreation and fitness center, a spirit of enthusiasm and teamwork and outstanding opportunities for career satisfaction.

Send your resume, including salary history with a listing of the appropriate **Job#**, to: **Human Resources Department, Glaxo Inc., P.O. Box 13398, Research Triangle Park, N.C. 27709.** (No Phone Calls or Agency Referrals, Please). An Equal Opportunity Employer M/F/H/V.

Glaxo Inc.

Our belief begins with you.

SENIOR SCIENTISTS

Battelle, Pacific Northwest Laboratories is one of five national multiprogram laboratories and is operated by the Battelle Memorial Institute under a contract with the U.S. Department of Energy. The laboratory has a staff of approximately 3,500 conducting research in Physics, Chemistry, Life Sciences, Materials, Engineering, Mathematics, Computer Science, and Earth and Environmental Sciences. PNL is developing a major new initiative, the Molecular Sciences Research Center (MSRC) and the Environmental Molecular Sciences Laboratory (EMSL), which will include the development of the world's first 1000 MHz NMR spectrometer. Growing programs in the PNL Life Sciences Center, including those which forge research linkages with the MSRC/EMSL staff and facilities, enable us to offer the following positions:

Senior Molecular Biologist

The research leader selected will head a research group which focuses on the molecular biology of health effects produced by exposure to various kinds of radiations and chemicals. Requirements include a PhD or equivalent and at least five years of professional experience with a strong publication record in one or more areas of molecular biology of cancer, mutation, or development, and skills in management of research personnel and facilities. Qualifications include expertise/interest in utilizing the unique spectroscopy facilities and staff of the MSRC/EMSL described above to study the structure/function of normal and altered nucleic acids and proteins.

Senior Cellular/ Mammalian Biologist

Preferred background includes a PhD and at least five years of professional experience with a strong publication record in one or more areas of cellular radiobiology, mechanistic developmental biology, biology/biophysics of electromagnetic fields, primate physiology, biology/biophysics of exposure to chemicals, or animal model studies of gastrointestinal or cardiovascular diseases. The successful candidate will possess the necessary interpersonal/managerial skills to head a research group working in a number of these areas

PNL offers an excellent salary and benefits package. Opportunities in teaching and directing graduate student research exist through cooperative programs with the expanding campus of Washington State University-Tri Cities Campus in Richland as well as with other Pacific Northwest Universities.

For consideration, candidates should send a curriculum vitae, list of publications, letter of interest, and the names and addresses of four references to: **Dr. John D. Zimbrick, Manager, Biology and Chemistry Dept., Battelle, Pacific Northwest Laboratories, P.O. Box 999, Mail Code 1017, Richland, WA 99352.** Applications will be accepted until March 1, 1991 or until suitable candidates are found. Battelle-PNL is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and members of other protected groups are strongly encouraged to apply.



Battelle

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PENNSTATE



Director, Biotechnology Institute
PENN STATE

The Pennsylvania State University invites applicants and nominations for the position of the Director of the Biotechnology Institute. The Institute is an inter-college research program involving the colleges of Agriculture, Engineering, and Science, and is funded by industrial, state, federal, and Penn State sources. The Biotechnology Institute currently has a strong focus in plant biotechnology, ranging from research in plant biochemistry and molecular biology to plant development and bioprocessing. It is expected that this focus will continue and be expanded under the new Director. There is also potential for the development of other biotechnology research programs. The Institute houses over 65,000 sq. ft. of new laboratory space and lecture rooms, and has acquired specialized equipment and instrumentation, including facilities for biocomputing, DNA and protein sequencing and synthesis, and a bioprocessing pilot plant.

The Director should be internationally recognized as a researcher, and experience in plant molecular biology is desirable. The Director is the major spokesperson for biotechnology at Penn State, and must provide coordination and leadership to an expanding group of faculty. The Director will also provide liaisons to external agencies, alumni, industry, and the public. In collaboration with the Institute's Advisory Board, the Director identifies program goals and focus and is responsible for raising and maintaining funds for the Institute. The Director will also be responsible for working with various academic departments in the University to fill joint faculty positions in biotechnology and related fields. Applicants should have an established research program plus the ability to coordinate interdisciplinary groups and provide insight and leadership for future opportunities in biotechnology. Continuation of an active research program by the Director is expected.

The Institute is housed on Penn State's University Park Campus which is located in a pleasant valley among the mountains of central Pennsylvania. The associated community of State College combines the best attributes of a middle sized city with the cultural and intellectual activities of a large university.

Applicants, nominations, and requests for further information will be held confidential and should be directed to Professor J. Larry Duda, Chairman of Search Committee for the Director of the Biotechnology Institute, The Pennsylvania State University, 519 Wartik Laboratory, Dept. SCI-1, University Park, PA 16802, (814) 863-3650. Applicants will be evaluated starting February 25, 1991 and continuing until position is filled. The position is available immediately.

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

UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE

Department Head Pharmacology

The University of Arizona College of Medicine invites applications and nominations for the position of Head in the Department of Pharmacology. Responsibilities include directing, managing, planning, and continuing development of a department committed to excellence in research and the teaching of graduate and medical students. The candidate must have a Ph.D., M.D., or equivalent degree from an accredited institution, be qualified for an academic appointment at the rank of professor, have an outstanding independent research program and demonstrated abilities in teaching, and administration.

Applications should include curriculum vitae, a brief statement of current research interests, and names of at least three references. Women and minorities are encouraged to apply. Applications and nominations should be directed to:

Ronald S. Weinstein, M.D.
Professor and Head
Department of Pathology
Chairman, Pharmacology Search Committee
University of Arizona
College of Medicine
Tucson, AZ 85724
(602) 626-7163

The review of applications will begin **April 15, 1991** and will continue until the position is filled.

*The University of Arizona is an Equal Employment
Opportunity/Affirmative Action Employer*

CHAIR

DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES

The Johns Hopkins University School of Hygiene and Public Health

Nominations and Applications are invited for the position of Chair, Department of Environmental Health Sciences at the Johns Hopkins University School of Hygiene and Public Health. The Department has a long tradition of excellence in the conduct of Environmental Health Sciences Research and the provision of pre-doctoral/post-doctoral training. The Department has approximately sixty full-time faculty based in the following six divisions: Environmental Chemistry and Biology; Environmental Health Engineering; Occupational Health; Physiology; Radiation Health Sciences; Toxicological Sciences. Interests of the faculty span a broad array from bench research to participation in professional practice and health promotion. Increasingly, the research is interdisciplinary involving faculty from the Department's six divisions as well as other departments at the School of Hygiene and Public Health, the School of Medicine and elsewhere. Faculty of the Department also provide programmatic consultation to a variety of national and international public agencies as well as private industry.

Candidates for this position should have a strong record of academic accomplishment in the environmental health sciences. In addition, s(he) should have well proven administrative abilities and a capacity to work collaboratively with colleagues in other disciplines. Finally, the candidate should have a broad vision of the future of environmental health sciences and the ability and desire to provide dynamic leadership for an already vibrant department.

Nominations, applications, and inquiries should be directed to:

Dr. Paul Whelton
Chair, Environmental Health Sciences Search Committee
The Johns Hopkins University School of Hygiene and Public Health
Room 1041
615 N. Wolfe Street
Baltimore, Maryland 21205

DEAN, COLLEGE OF NATURAL SCIENCES UNIVERSITY OF ALASKA FAIRBANKS

The University of Alaska Fairbanks invites applications and nominations for the position of Dean of the College of Natural Sciences. The University of Alaska Fairbanks is the main campus of the University of Alaska system and the major center of science research and education. The College of Natural Sciences encompasses four academic departments (Biology and Wildlife, Chemistry, Geology and Geophysics, and Physics) as well as the University of Alaska Museum and the General Science degree program. The College is closely associated with major research institutes (Geophysical Institute and Institute of Arctic Biology) and the Alaska Cooperative Wildlife Research Unit and Alaska Cooperative Fishery Research Unit. UAF is a major center for both basic and applied research with outstanding opportunities for study of high latitude systems. The College of Natural Sciences currently enrolls 343 undergraduate majors and 169 graduate students in master's and doctoral programs and has 93 faculty members. Construction of a new Natural Sciences Building is in progress.

The Dean is the chief administrator of the College of Natural Sciences and reports to the Vice Chancellor for Academic Affairs. The Dean is responsible for curriculum development, budgeting and personnel in the College and must facilitate interactions with research institutes.

The UAF campus overlooks Fairbanks, a thriving progressive community of 72,000, rated fourth best small community in the nation. Fairbanks offers outstanding cultural diversity, unsurpassed natural beauty and outdoor recreation, and friendly local atmosphere. Fairbanks is a transportation hub served by major airlines. Public and private schools in Fairbanks have an excellent reputation.

Candidates for this position should have the following qualifications:

Earned doctorate and significant record of scholarly achievement sufficient for appointment at the rank of Professor in one of the departments of the College.

Ability to build and maintain strong academic programs and recruit outstanding faculty and students.

Experience in academic administration and budgeting.

Strong human relations and communications skills.

Vision and capacity to successfully develop nontraditional educational opportunities.

Send curriculum vitae; statement of interest; and names, addresses, and phone numbers of five references to: Dr. Mark W. Oswood, Chair, CNS Dean Search Committee, Department of Biology and Wildlife, 211 Irving Building, University of Alaska Fairbanks, AK 99775-0180, Phone: (907) 474-7972, FAX: (907) 474-6967.

Screening of applications will begin 11 February, 1991. Anticipated starting date for the position is July 1, 1991.

The University of Alaska is an Affirmative Action, Equal Opportunity employer and educational institution.

RESEARCH OPPORTUNITIES IN NEUROBIOLOGY

Amgen, a leader in the discovery and marketing of hematopoietic and tissue repair growth factors, has made a significant commitment to the development of protein therapeutics to treat neurological disorders. We have immediate openings at several career levels for scientists to participate in a multi-disciplinary research program to discover and develop novel neurotrophic factors using *IN VITRO* assays and *IN VIVO* models.

Successful candidates will have experience in one or more of the following: neuronal cell culture, lesion and disease paradigms or nervous system development.

RESEARCH SCIENTIST POSITIONS.

Candidates should have a Ph.D. or equivalent in a relevant area and 1-3 years of postdoctoral experience. Additional experience as an independent scientist in academic or industry settings is desirable but not essential.

RESEARCH ASSOCIATE POSITIONS. A Bachelor's degree or equivalent and relevant work experience in neurobiology, including neuronal cell culture or neurohistochemistry, are necessary.

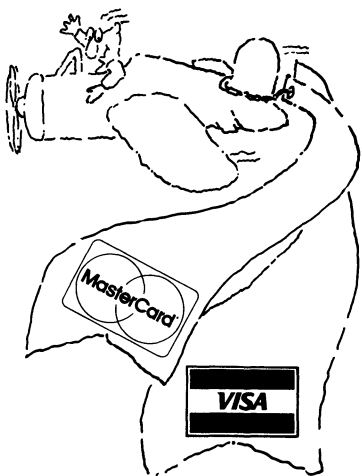
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POSITIONS OPEN

FACULTY POSITION IN MOLECULAR BIOLOGY. To lead a vigorous research and graduate program involving state-of-the-art molecular approaches. Research may include regulation of gene expression, protein secretion, lactation, cellular growth, or organelle biogenesis. Competitive salary. Up to \$150,000 start-up funds will be requested. This tenure-track position is part of a university-wide program of excellence in molecular biology and biotechnology. Send letter of interest, résumé, transcripts, and three reference letters by 1 April or until filled to: **Dr. S. A. Ewing, Department of Animal Science, Iowa State University, Ames, IA 50011.** An Equal Opportunity/Affirmative Action Employer.

ONE-YEAR FACULTY APPOINTMENT DEPARTMENT OF BIOCHEMISTRY NORTH CAROLINA STATE UNIVERSITY

A 1-year academic appointment with teaching responsibilities at the undergraduate and graduate levels in biochemistry is available as of 1 July 1991. The position has the responsibilities of teaching two one-semester courses during the year, academic advising, and opportunity to join one of the department's ongoing research programs. The Department of Biochemistry, within the Colleges of Agricultural and Life Sciences and Physical and Mathematical Sciences, offers B.S., M.S., and Ph.D. degrees in biochemistry, and has research programs in animal, plant, and microbial biochemistry and molecular biology. Send résumé, a brief description of teaching and research experience and interests, and three letters of reference to: **Academic Search, Dr. Paul F. Agris, Head, Department of Biochemistry, Box 7622, North Carolina State University, Raleigh, NC 27695-7622.**

FACULTY POSITION IN DEVELOPMENTAL BIOLOGY CHILDREN'S HOSPITAL RESEARCH FOUNDATION (CHRF) CINCINNATI, OHIO

The Basic Sciences Division has an opening for an **ASSISTANT/ASSOCIATE PROFESSOR** (tenure track) in the University of Cincinnati to be filled in 1991 or 1992. The position will allow over 90% of time to be spent on research, with the remaining time spent in an active developmental biology graduate program. A new research building is nearing completion. Outstanding candidates with research interests in mammalian developmental genetics, neurobiology, transcription factors, or homeobox genes are encouraged to apply. Please send curriculum vitae, research plans, and the names and addresses of three references to:

**Search Committee
Division of Basic Science Research, IDR 731
Children's Hospital Research Foundation
Elland and Bethesda Avenues
Cincinnati, OH 45229-2899**

CHRF is an Equal Opportunity/Affirmative Action Employer.

TENURE-TRACK POSITION LECTURER IN PLANT PATHOLOGY

The Department of Plant Pathology and Microbiology, Faculty of Agriculture of the Hebrew University of Jerusalem, Rehovot, invites applications for a tenure-track position to carry out research and teaching in molecular biology of phytopathogenic fungi. Highly qualified epidemiologists in phytopathology will also be considered. The position also requires supervision of M.Sc. and Ph.D. students. Language of instruction is Hebrew. The candidate will be expected to teach undergraduate and graduate courses in plant pathology, according to the department's needs, and suggest new graduate courses in phytopathogenic fungi in the area of his/her competence. The applicant will be expected to develop research programs and will be required to seek grant support for research purposes. The position is available beginning 1 October 1991.

Applicants should submit résumé, list of publications, a brief description of experience and scientific interests, and three letters of recommendation that should be sent separately before 15 February 1991 to:

**Professor Yigal Henis, Chairman
Department of Plant Pathology and Microbiology
Faculty of Agriculture
The Hebrew University of Jerusalem
P.O. Box 12
Rehovot 76100, Israel**

POSITIONS OPEN

ENVIRONMENTAL STUDIES AT FLORIDA INTERNATIONAL UNIVERSITY

TWO TENURE-TRACK FACULTY POSITIONS for the fall of 1991 are anticipated in one or more of the following areas: (i) international conservation of natural resources, (ii) sustainable economic development, (iii) sustainable agriculture, and (iv) international environmental policy. These will be joint appointments between the Environmental Studies Program and the department(s) most closely associated with his/her area of expertise. Environmental studies is an interdisciplinary program involving nine departments within the College of Arts and Sciences, offering both B.S. and B.A. degrees. Applicants should have a Ph.D. degree and strong research capability. The positions will involve teaching, research, and service in the Environmental Studies Program as well as the department of appointment. Florida International University (FIU), the newest member of the State University System of Florida, is South Florida's largest public university, with over 22,000 undergraduate and graduate students enrolled in 167 programs of study.

Apply with cover letter, curriculum vitae, and names of three references, postmarked by 28 February 1991, to: **Dr. David Lee, Chair, Search Committee, Environmental Studies Program, Florida International University, University Park, Miami, FL 33199, or by FAX: 305-348-1986.**

FIU is an Affirmative Action/Equal Opportunity Employer.

SCHIZOPHRENIA RESEARCHER. University of California, Irvine (UCI), is seeking a **JUNIOR FACULTY MEMBER OR RESEARCH POSTDOCTORAL FELLOW** to participate in schizophrenia research projects and be associated with UCI Center for Neurosciences and Schizophrenia. Position is for full-time clinical researcher. The research opportunities will include the comprehensive clinical evaluation of the schizophrenic patient from a diagnostic, neurological, neuropsychological, and attentional perspective. The opportunity to work with leading basic scientists and clinical scientists on studies relevant to the neuroanatomy and neurochemistry of D1, D2, D3 receptors, and excitatory amino acids is available. Participation in the development and testing of novel clinical treatments, neuroimaging (MRI and PET), and molecular genetic investigations is also possible. Clinical experience and interest in schizophrenia is essential; research experience preferred. Salary depends on level of training completed. Send curriculum vitae to: **William Bunney, Jr., M.D., Chairman, Department of Psychiatry and Human Behavior, Medical Science I, D 440, UC-Irvine, Irvine, CA 92717.** UCI is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION POSTDOCTORAL/RESEARCH ASSOCIATE

The Laboratory of Virology, Tampa Bay Research Institute, is seeking a qualified molecular biologist for a position at the level of **ASSISTANT MEMBER** or **RESEARCH ASSOCIATE** to study (i) human retroviruses, (ii) herpesviruses, and (iii) lymphokines/cytokines, in the area of viral-cellular gene interaction. Studies entail protein-DNA and protein-protein binding, cDNA cloning and sequencing, protein chemistry, and tissue culture. Applicants should have a Ph.D. or equivalent. Interested individual should send curriculum vitae, list of publications, a short statement of research accomplishment, and names and addresses of three referees to: **Dr. Meihan Nonoyama or Dr. Patrick K. Lai, Tampa Bay Research Institute, 10900 Roosevelt Boulevard, St. Petersburg, FL 33716.**

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BONUS CIRCULATION FOR YOUR CLASSIFIED AD AT PITTSBURGH CONFERENCE

Our issue of 22 February 1991 will be distributed to scientists attending the Pittsburgh Conference in Chicago, 4 to 8 March 1991. Deadline for submission of line classified ads: 7 February 1991.

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NATIONAL INSTITUTE OF MENTAL HEALTH



Alcohol, Drug Abuse and Mental Health Administration
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DIVISION OF BASIC BRAIN AND BEHAVIORAL SCIENCES

The National Institute of Mental Health's expanding commitment to basic neuroscience and behavioral science research has created openings for a number of important positions in the Division of Basic Brain and Behavioral Sciences. The Division seeks applications from experienced and talented scientists to fill vacancies at the branch and program level in seven major multidisciplinary branches. Vacancies exist within the following divisional structure as indicated by asterisks (*):

- ❖ *Basic Behavioral and Cognitive Sciences Research Branch**
 - Basic Behavioral Processes Program*
 - Cognition, Learning and Memory Program
 - Theoretical and Computational Psychology Program*
- ❖ *Neuroimaging and Applied Neuroscience Research Branch**
 - Neural Systems Program*
 - Neuroimaging Program*
 - Neuroscience Centers Program
- ❖ *Basic Prevention and Behavioral Medicine Research Branch*
 - Behavioral Medicine Program
 - Populations at Risk Program
 - Prevention and Behavior Change Program*
- ❖ *Personality and Social Processes Research Branch**
 - Interpersonal and Family Processes Program*
 - Personality and Emotions Program
 - Sociocultural and Environmental Processes Program*
- ❖ *Cognitive and Behavioral Neuroscience Research Branch**
 - Behavioral Neuroscience Program
 - Cognitive Neuroscience Program*
 - Theoretical Neuroscience Program*
- ❖ *Psychopharmacology Research Branch**
 - Behavioral Pharmacology Program
 - Neuropharmacology Program*
 - Psychotherapeutic Drug Development Program*
- ❖ *Molecular and Cellular Neuroscience Research Branch*
 - Developmental Neuroscience Program*
 - Neurogenetics Program*
 - Neuroimmunology/Neurovirology Program*
 - Neurotransmitter/Neuroregulation Program

Branch Chiefs are responsible for leading the national research effort in a particular multidisciplinary branch. The annual budget for each branch ranges from \$10-\$21 million with a staff of 6-8 people each. Branch Chiefs plan, develop, coordinate, and fund national and international programs of support for research and training in the substantive area. Since the research scope crosses a number of scientific disciplines, Branch Chiefs must have demonstrated broad administrative and supervisory experience. Applicants must possess significant research experience, good oral and written communication skills and a recognized interest in and capacity for extramural science management. Minimum qualifications include a M.D., Ph.D., or equivalent training in an academic field related to the health sciences pertinent to the work of the position. The grade of Branch Chief positions is at the GM-15 level, with a salary range from \$61,643 to \$80,138 per annum (up to approximately \$83,400 for Medical Officers).

Program level positions have responsibility for planning, developing and administering a specific substantive program of support. As recognized authorities, applicants for these positions analyze current research activities; identify extramural research areas of underdevelopment; and stimulate the submission of grant applications in the program's field of emphasis. Applicants must possess a M.D. or Ph.D. degree, or equivalent training in a basic biomedical, behavioral, or physical science, a minimum of 3 years postdoctoral experience, good oral and written communication

skills, and have demonstrated a strong interest in extramural science management. The grades of these positions are at the GS-13/14 level, with a salary range from \$44,348 to \$68,129 per annum (up to approximately \$70,900 for Medical Officers).

Medical Officers may be eligible for an additional physicians comparability allowance (PCA) of \$8,000 to \$20,000 per annum for the GM-15 positions and \$5,000 to \$10,000 for the GS-13/14 positions.

Benefits include a retirement plan, health and life insurance, sick and annual leave. Relocation expenses may be paid. Duty station is Rockville, MD. United States citizenship is required.

Vacancies will be filled through the Civil Service or an appointment in the Commissioned Corps of the U.S. Public Health Service. *ADAMHA is an Equal Opportunity Employer. Applications from women and minority group members are especially solicited.* Interested applicants should submit an SF-171 (Application for Federal Employment) and accompanied by a current curriculum vitae and bibliography. Applications for this announcement will be accepted until June 30, 1991 or until filled. During the announcement period, applications received will be considered and screened every 60 days. Submit applications to: Ms. Topaz, Personnel Operations, NIMH, Room 15C12, 5600 Fishers Lane, Rockville, Maryland 20857, or call (301) 443-9094.

❖ **ADAMHA IS AN EQUAL OPPORTUNITY EMPLOYER** ❖

Research Scientists

Biotechnology Research Institute conducts cancer research and diagnostic product development under the umbrella of the Pharma Division of Akzo, N.V., a worldwide organization with commercial endeavors in 50 countries.

Formulation/ Pharmaceutical Scientist

This scientist will develop novel approaches to the formulation of biological pharmaceuticals for diagnostic/therapeutic applications. Requirements include a Ph.D. in chemistry/biochemistry or a BS/MS with at least four years' related formulation experience. Experience with proteins is essential. Additional knowledge of biochemistry, technetium chemistry or lyophilization technology would be helpful.

Organic Chemistry/Radiochemistry

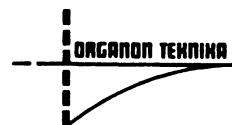
This scientist position involves design, synthesis and characterization of organic compounds suitable for attaching radioisotopes to proteins. Requirements include a Ph.D. in organic chemistry or a BS/MS with at

least four years' experience in organic synthesis. Knowledge of biochemistry, radiochemistry or inorganic chemistry would be useful.

Postdoctoral Position

A postdoctoral position is available to work with Dr. Ray F. Ebert on exploratory basic research leading to the development of novel diagnostic tests and test methods for clinical hematology. Applicants should have experience in biochemistry/molecular biology and immunology.

Biotechnology Research Institute offers competitive salaries and benefits including a company-matched Incentive Savings Plan. For prompt consideration, please submit a C.V. and a description of current and future research interests to: Organon Teknika Corporation, Biotechnology Research Institute, 1330-A Piccard Drive, Rockville, MD 20850. EOE H/V/F



TOXICOLOGISTS

The Procter & Gamble Company has several entry-level staff toxicology openings in the Laundry and Cleaning Products Sector. These positions require a Ph.D. degree, preferably in toxicology; however, degrees in pharmacology, physiology, nutritional toxicology, or other life sciences are acceptable if the training or experience meets the needs of the openings.

These positions involve the design, implementation, and interpretation of a breadth of toxicology studies and applying the results to the development of risk assessments for new products, chemicals, and product ingredients. These toxicologists will work with multi-disciplinary teams and interact with contract facilities, scientists outside the Company, and regulatory agencies at both state and federal levels.

Procter & Gamble is a world leader in the research, development, and manufacture of a wide variety of consumer products including those in the health, personal care, beauty care, and pharmaceutical areas. Sales last year were \$24.1 billion, and the R&D budget was \$693 million.

We offer competitive salaries, a fringe benefits package in the top 5% of U.S. firms, and excellent opportunities for personal and professional growth.

Applicants must be presently authorized to work in the U.S. on a full-time basis. Resumes, with a list of publications, should be sent to:

Dr. T. J. Logan
Toxicology Positions-LCP
The Procter & Gamble Company
P.O. Box 398707
Cincinnati, Ohio 45239-8707

Procter & Gamble is an EQUAL OPPORTUNITY EMPLOYER.

Procter & Gamble



U C L A

Departments of Medicine and Physiology

CARDIOVASCULAR

TENURE TRACK POSITION

Applicants are being sought whose research emphasis is on molecular biology, structure-function relations or on receptor function as applied to the cardiovascular system. Clinical credential in the cardiovascular area is preferred but not essential. The recruitment is cooperative among the Departments of Physiology, Medicine and the Cardiovascular Research Laboratory at the UCLA School of Medicine. Please respond, with curriculum vitae including names of those willing to serve as references, to:

G.A. Langer, M.D.
Cardiovascular Research Lab, A3-381 CHS
UCLA School of Medicine
10833 Le Conte Avenue
Los Angeles, CA 90024-1760

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

Carolina Workshops
University of North Carolina
at Chapel Hill

PROTEIN TECHNOLOGY
May 19-June 2, 1991

A general course on biochemical and immunological techniques as applied to the synthesis, isolation, and characterization of peptides and proteins. Techniques to be featured will include: Enzyme isolation from tissues, purification by ion exchange, size exclusion, reverse phase, thin layer, and affinity chromatography, analysis of isozymes, preparation of monoclonal antibodies, Western blotting, and epitope mapping. Students will also synthesize peptides by both manual and automated methods. Students who wish to prepare monoclonal antibodies from their own material can do so if the requisite antigen is provided to the course instructors at least 6 weeks prior to the beginning of the course. Tuition is \$1,950.

Instructors:

Frank Church, UNC-CH
Bruce Erickson, UNC-CH

Howard Reisner, UNC-CH
Tom Traut, UNC-CH

cDNA CLONING & GENE EXPRESSION
July 21-August 4, 1991

A general DNA techniques workshop focusing on synthesis of cDNA and cloning into lambda vectors. Techniques will include mRNA isolation, Northern transfer and hybridization, cDNA synthesis, adapter facilitated cloning into lambda vectors, subcloning into plasmid vectors, and DNA sequencing. Libraries will be screened with antibodies and DNA probes. Additional techniques to be utilized as time permits will include computer analysis of DNA sequence data. Students who wish to create their own cDNA libraries may bring their own mRNA preparations. Tuition is \$1,950.

Instructors:

To be announced

Future Carolina Workshops
Human Genome Analysis - Oct, 28-Nov. 15, 1991

CAROLINA WORKSHOPS are a series of intensive hands-on laboratory courses designed to teach cutting edge methods in molecular biology. The techniques include basic manipulations such as isolation of insert and vector DNA, ligations, electrophoretic analysis and elution from gels, blotting techniques, preparation and labeling of probes, identification of cloned DNA, and protein purification. Each course provides experience in the basic techniques which serve as a solid background in molecular biology. Each individual course has an identifiable theme and emphasizes in addition to the general techniques, specialized techniques such as DNA sequencing, in vitro mutagenesis, cDNA synthesis, expression vectors or protein/immunological techniques.

Many applicants to the Carolina Workshops already hold the M.D. or Ph.D. degree. Our courses are very heavy on hands-on contact with the protocols, light on lectures concerning the basics. Hence, a reasonable familiarity with the concepts behind DNA and protein techniques such as those found in good texts (*e.g. Recombinant DNA: A Short Course* by Watson, Tooze, and Kurtz or *Guide to Protein Purification* by Deutscher) is necessary to get a good yield from these courses. Experience with running these courses for eight years now indicates that both students with and without any prior hands-on experience with molecular techniques find these courses useful. Experienced students benefit from in-depth interaction with the instructors; novices learn the realities behind the innocent looking protocols. The result obtained in the Carolina Workshops can be considerable. In a recent Workshop one researcher generated 21kb of sequence data in the Sequencing Workshop; another created 7 cDNA libraries in the cDNA Cloning Workshop.

To apply, send a curriculum vitae and a brief letter describing your research interests and their relevance to the Workshop for which you apply. Applicants should contact the program office as soon as possible. Please indicate your complete mailing address and telephone number. Full consideration will be given to applications received for the "Protein Workshop" by MARCH 1, or "cDNA Workshop" by APRIL 1.

For further information or to apply, contact:

Dr. Philip L. Carl, Interim Director
University of North Carolina at Chapel Hill
Program in Molecular Biology & Biotechnology
101 MBBRL Building CB 7100 S
Chapel Hill, North Carolina 27599-7100
TELEPHONE (919) 962-8920, FAX (919) 966-6821

POSITIONS OPEN

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE (NIH)

The Laboratory of Cell Biology, National Heart, Lung, and Blood Institute, invites applications for a **SENIOR POSTDOCTORAL**, tenure-track position (salary approximately \$40,000, depending on experience). The overall emphasis of the laboratory is the understanding of the molecular and cellular mechanisms of actomyosin-dependent cell motility. The applicant must hold a Ph.D. and/or M.D. degree and have a minimum of 3 years of relevant postdoctoral experience. We are seeking an individual with demonstrated outstanding ability in protein purification, protein structure, protein physical chemistry, and enzymology including kinetics, active-site determination, and regulatory mechanisms. A thorough understanding of, and practical experience with, actomyosin systems of non-muscle cells and demonstrated ability to conduct an independent research program are essential. Meaningful experience with the myosin I isoenzymes, phospholipid- and Ca-dependent protein kinases, and protozoan systems would be very beneficial. Send curriculum vitae and three letters of recommendation to: **Dr. Edward D. Korn, Laboratory of Cell Biology, National Heart, Lung, and Blood Institute, 9000 Rockville Pike, Building 3, Room B1-22, National Institutes of Health, Bethesda, MD 20892. Must be U.S. citizen.**

NIH is an Equal Opportunity Employer.



Agricultural Research Service
United States Department of Agriculture

POSTDOCTORAL POSITION, National Animal Disease Center, Ames, Iowa. ARS is seeking a **RESEARCH ASSOCIATE** for a 2-year position to work as a cellular immunologist to evaluate the interactions of *Brucella abortus* on bovine macrophages and lymphocyte cytokine production. Experience with cell culture technology and cytokine assays or Northern blots required. Recent Ph.D. is required. Salary is commensurate with experience (\$31,116 to \$37,294). For information on the research program and/or position, contact: **Dr. Mark Stevens, 515-239-8313**. For information on application procedures/forms, contact: **Janie Carr, 301-344-4569**. Applications in response to this advertisement should be marked 1N021. Applications must be received by 28 February 1991. Mailing address:

USDA, Agricultural Research Service
Personnel Operations Branch
6305 Ivy Lane, Room 325
Greenbelt, MD 20770

An Equal Opportunity Employer.

POSTDOCTORAL POSITION MOLECULAR BIOLOGIST

Molecular biologist sought to study the blood-brain barrier glucose transporter. Position available in summer of 1991. Candidate must have demonstrated proficiency in biochemical and recombinant DNA techniques. Salary range begins at \$25,000 per year plus medical insurance. Send curriculum vitae and three letters of reference to: **Professor William M. Pardridge, Department of Medicine, University of California, Los Angeles (UCLA) School of Medicine, Los Angeles, CA 90024-1682. UCLA is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION UNIVERSITY OF MINNESOTA

A position is available to pursue studies on the structural and functional role of lipid domains in membranes. Current efforts are focused on regulation of cholesterol domains in synaptic plasma membranes and how chronic ethanol consumption alters cholesterol domains. Experience in receptor pharmacology, signal transduction, or protein purification desirable but not required. Candidates should have a recent Ph.D. in biochemistry, pharmacology, or related discipline. Send curriculum vitae and names of three references to: **Dr. W. Gibson Wood, Department of Pharmacology, University of Minnesota, 3-249 Millard Hall, 435 Delaware Street, S.E., Minneapolis, MN 55455.**

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

POSITIONS OPEN

YALE UNIVERSITY SCHOOL OF MEDICINE POSTDOCTORAL POSITIONS IN IMMUNOBIOLOGY

The Section of Immunobiology headed by R. A. Flavell includes A. Bothwell; K. Bottomly; I. N. Crispe; A. Hayday; C. A. Janeway, Jr.; P. Kavathas; N. Ruddle; D. Schatz; and R. Tigelaar. Postdoctoral positions in T and B cell development, recognition, activation, and function, and disease-related research in autoimmunity, Lyme disease, and AIDS are available. Please send curriculum vitae, statement of interest, and two letters of reference to: **Terrill Moorehouse, Administrator, Section of Immunobiology, 310 Cedar Street, P.O. Box 3333, New Haven, CT 06510. Yale University is an Equal Opportunity Employer.**

Division of Clinical Pharmacology, Departments of Pharmacology and Medicine, Vanderbilt University. We are seeking a **POSTDOCTORAL POSITION** (2 to 3 years) focusing on the electrophysiology of cardiac potassium channels. The project uses whole-cell and isolated patch clamp and techniques to study the mechanisms of drug-channel interactions. Experiments are conducted in acutely disaggregated mammalian cells, and in *Xenopus* oocytes and cell lines expressing clones isolated from rat and human cardiac tissue. Sex, race, religion, or national origin will not be factors in the selection process. Send applications with curriculum vitae and names of three references to the attention of: **Dan M. Roden, M.D., Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, TN 37232. Vanderbilt University is an Equal Opportunity/Affirmative Action Employer.**

UNIVERSITY OF QUEENSLAND BRISBANE, AUSTRALIA

POSTDOCTORAL POSITIONS IN VISUAL NEUROSCIENCE. Applications are invited for the position of research officer/senior research officer in the Vision, Touch and Hearing Research Centre (VTHRC), University of Queensland, Brisbane, Australia. A postdoctoral scientist with training in neuroanatomy and/or electron microscopy is required for a 5-year NHMRC-funded project on "How the eye detects movement." The appointee will join an interdisciplinary group studying the synaptic basis and functional mechanism of direction selectivity in the retina [*Prog. Retinal Res.* 9, 49-100 (1990)]. Initial appointment to 31 December 1991, renewable annually until 1995. Salary (under review): RO, A\$28,792 to A\$32,762; SRO, A\$33,163 to A\$43,096. VTHRC will provide removal allowances and travel costs for annual attendance at an international meeting. Send curriculum vitae and names of three referees by 15 February 1991 to: **Dr. D. I. Vaney, Department of Physiology and Pharmacology, University of Queensland, Queensland, Brisbane, Australia 4072**, from whom further information may be obtained by telephone at +61-7-3653759 or FAX at +61-7-3651766. Reference No. 65690.

POSTDOCTORAL POSITIONS

Two virology postdoctoral positions are available immediately to study the hepatocyte receptor for hepatitis B virus and to study the virus assembly and nuclear functions of the Newcastle disease virus matrix protein. Applicants should hold a Ph.D. or its equivalent and have experience in protein biochemistry and/or molecular biology. The successful applicants will join active research teams in the project areas. Please send curriculum vitae and three letters of reference by 31 May 1991 to: **Dr. Mark Peebles, Department of Immunology/Microbiology, Rush Medical College, 1653 West Congress Parkway, Chicago, IL 60612.**

Rush is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY OF AGING

Postdoctoral position, available immediately, to study hormonally regulated hepatic gene expression during aging. Experience in molecular biology is required. Stipend is competitive. Send curriculum vitae, relevant reprints, and three references to: **Dr. Bandana Chatterjee, Associate Professor, Department of Cellular and Structural Biology, University of Texas Health Science Center, San Antonio, TX 78284.**

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION. Available to study regulation of MHC Class I gene expression during early mouse development. Collaborative project using ES cells to investigate molecular mechanism(s) involved in maternal tolerance of the fetal allograft. Applicants should have a strong background in developmental genetics and/or molecular immunology. Please send curriculum vitae, statement of research interests, and three letters of recommendation to: **Dr. Elizabeth J. Robertson, Columbia University, Department of Genetics and Development, 701 West 168th Street, New York, NY 10032, or Dr. Elizabeth K. Bikoff, Department of Obstetrics and Gynecology, Annenberg 20-84, The Mount Sinai Medical School, One Gustave L. Levy Place, New York, NY 10029-6574. An Equal Opportunity Employer.**

PRE- AND POSTDOCTORAL TRAINING IN PULMONARY DISEASE. Positions are available at The Johns Hopkins Medical Institutions for multidisciplinary research training in lung diseases. Areas of interest include the immunology, physiology, cell biology, biochemistry, and toxicology of the lung. Available stipends are limited to U.S. citizens or individuals with permanent immigrant visa status. For further information, please contact: **J. T. Sylvester, M.D., Division of Pulmonary and Critical Care Medicine, 600 North Wolfe Street, Baltimore, MD 21205. Minority candidates are encouraged to apply.**

POSTDOCTORAL ASSOCIATE MOLECULAR BIOLOGY OF HEME BIOSYNTHESIS

THE UNIVERSITY OF GEORGIA (UGA)

A postdoctoral position is available to study either aspects of regulation of heme biosynthesis during erythroid differentiation or the molecular basis of the genetic disease variegate porphyria. Candidates do not need to have prior experience with tetrapyrrole biosynthesis or cell culture techniques. A strong background in either biochemistry with basic recombinant DNA techniques or molecular biology is preferred.

Please send curriculum vitae and a list of three references to:

**Dr. Harry A. Dailey
Department of Microbiology
The University of Georgia
Athens, GA 30602**

UGA is an Equal Opportunity/Affirmative Action Institution.

POSTDOCTORAL POSITION. Available to study the immediate genetic responses of human cells to DNA damage created by ionizing radiation at the molecular biology level. The induction characteristics of previously isolated x-ray-induced genes and proteins [*Cancer Res.* 49, 2871 (1990)] from radioresistant human melanoma cells will be characterized, and their functions will be elucidated via antisense and complementation assays. Subtractive and/or differential hybridization techniques, PCR, Northern, dot-blot and nuclear run-on assays will be utilized to isolate and characterize induced or down-regulated genes in various human normal, tumor, and cancer-prone cells following x-irradiation. The candidate must have a Ph.D. Preference will be given to individuals with a strong background in the areas of protein chemistry, biochemistry, and molecular biology. Submit curriculum vitae, letters of recommendation, and relevant research papers to: **David A. Boothman, Ph.D., Department of Radiation Oncology, Division of Cancer Biology, University of Michigan Medical School, 1331 East Ann Street, Room 4131, Ann Arbor, MI 48109-0010. The University of Michigan is an Equal Opportunity/Affirmative Action Employer.**

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The Upjohn Company

POSTDOCTORAL RESEARCH SCIENTIST PROGRAM

The Upjohn Company, a recognized leader in pharmaceutical research and development, announces The 1991 Postdoctoral Research Scientist (PRS) Program for our Upjohn Laboratories Division. This Program reflects Upjohn's commitment to encourage creative and innovative science, to stimulate new scientific techniques and concepts and to provide an excellent training environment for our PRS scientists.

Applications are invited from new or recent doctorates in science, medicine and/or veterinary medicine having a strong record of academic and scientific excellence in research. As part of our PRS Program you will apply your science and talents in one or more of the following areas: biochemistry, biostatistics, cell biology, immunology, medicinal chemistry, molecular biology, pharmacology, physiology, organic chemistry, toxicology or virology.

MOLECULAR and CELL BIOLOGY RESEARCH (Specialty Code 5736-HA)

Participate in T-Cell research projects or therapeutic studies in one of these specialty areas: herpes, HIV, and other viral diseases, central nervous system, or animal respiratory system.

DISCOVERY RESEARCH—GENERAL (Specialty Code 5737-HA)

Research opportunities include: cancer/molecular biology, cardiovascular diseases, diabetes, cholesterol studies and pulmonary research.

MEDICINAL CHEMISTRY (Specialty Code 5735-HA)

Chemistry or biochemistry background and participate in the design of antiviral drugs, CNS active compounds, or the development of new organic chemistry techniques.

PRECLINICAL and TOXICOLOGICAL RESEARCH (Specialty Code 5738-HA)

T-lymphocyte research, lipid projects or toxicity assessment studies, or perform research on sustained release dosage forms.

BIOSTATISTICS RESEARCH (Specialty Code 5739-HA)

Assess and develop new experimental designs.

Appointments are for one year, renewable for a second year. The Upjohn PRS Program is designed to provide a top-quality research experience and the opportunity to publish scientific results with an excellent salary and benefits package offered. Upjohn Laboratories offers a stimulating, multi-disciplinary research environment at our modern facilities located in Kalamazoo, a southwestern Michigan community located midway between Chicago and Detroit. Our region provides an outstanding mix of cultural and recreational pursuits and a reasonable housing cost market. Qualified candidates are invited to forward their curriculum vitae and cover letters describing education, research experiences, publications, interests, objectives and availability dates to:

**THE UPJOHN COMPANY
CORPORATE RECRUITING
POSTDOCTORAL RESEARCH SCIENTIST PROGRAM
7000 PORTAGE ROAD
KALAMAZOO, MI 49001-0199**

Please refer to one of the above specialty codes in your cover letter. A number of PRS positions are currently open with most appointments being decided by mid-year. We are an Equal Opportunity Employer M/F.

OUR COMMITMENT TO SCIENTIFIC EXCELLENCE CONTINUES...

The Upjohn logo consists of the word "Upjohn" in a bold, serif font, enclosed within a black rectangular box. Above the box, there are three horizontal black bars of varying lengths, creating a stylized graphic element.

DEAN

School of Natural Resources The University of Michigan

Applications and nominations are invited for the position of Dean of the School of Natural Resources at the University of Michigan. The Dean is the chief academic and administrative officer of the School and reports directly to the Academic Vice President. The School of Natural Resources is an interdisciplinary, research-oriented, professional school, focusing on research and the development of policies and management programs that promote the conservation, protection, and sustainable use of natural resources. In addition, the School educates practitioners and researchers who will seek these ends. The School's activities include instruction at the undergraduate, master's, and doctoral levels and an active research program. Faculty interests are diverse: Resource Ecology and Management, Resource Policy and Behavior, and Landscape Architecture. The School is committed to an integrative, interdisciplinary, problem-solving approach in collaboration with related disciplinary departments and professional schools.

The Dean provides leadership in program planning, development, and evaluation. Qualifications should include an earned doctorate, a distinguished record appropriate for a tenured appointment in the School, and the ability to generate funds for programs at the local, state, national, and international levels. The committee will begin reviewing candidate files on February 4, 1991. Applications and nominations should be sent to: Professor Burton Barnes, Chair, School of Natural Resources, Dean Search Advisory Committee, The University of Michigan, 520 E. Liberty, Ann Arbor, MI 48104-2210. A non-discriminatory, affirmative action employer.



UNIVERSITY OF CALIFORNIA — DAVIS DIRECTOR CENTER FOR NEUROBIOLOGY

The University of California at Davis invites applications and nominations for the position of Director of the Center for Neurobiology.

The newly established Center for Neurobiology is a campuswide unit involving faculty from five different colleges/schools on the Davis campus. The Center provides research space, seminar programs, support for graduate students, postdoctoral associates and distinguished visitors, and will serve as the administrative home for the campuswide Graduate Group in Neurobiology. The Davis campus has made a major commitment to the further development of neurobiology through the Center; following the hiring of the Director, the campus is prepared to make ten additional appointments associated with the Center over a five year period.

We seek as Director an outstanding individual in the field of integrative neurobiology, with interests and abilities that are sufficiently broad to provide intellectual and administrative leadership for all neurobiologists on the campus. The specific area of the Director's research could range from a systems approach to cellular or molecular neurobiology. The former could focus on such areas as cognitive neuroscience or neuroethology, while the latter might emphasize cellular or molecular aspects of neuronal communication or development.

The Director's position involves a faculty appointment at the professorial level in an academic department in one of the colleges/schools with programs in neuroscience. The appointment carries an administrative stipend.

The University of California is interested in candidates who are committed to the highest standards of scholarship and professional activities and are committed to the development of a campus climate that supports equality and respect for differences based on gender, cultural ethnicity, level of disability and sexual preference. This position will remain open until filled. To assure fullest consideration, applicants should send a letter of interest or nomination, curriculum vitae, and the names of at least three references by 15 March 1991.

Leo M. Chalupa, Ph.D., Acting Director
Dean's Office, Division of Biological Sciences
University of California, Davis, CA 95616
(916) 752-6764

POST-DOCTORAL OPPORTUNITY (Richland, WA)

Battelle, Pacific Northwest Laboratories, the preeminent multiprogram national laboratory for environmental technology development, is currently looking to fill a 2 year appointment for its Environmental Microbiology Group.

Research focus will be on the expression of previously cloned biodegradative enzymes and redesigned biodegradative enzymes in bacteria isolated from aquifer sediments, for the purpose of expanding their substrate range for degradation of environmental contaminants.

Candidate should have experience in enzyme purification, determining enzyme activity and kinetic constants, DNA manipulations and sequencing, and site-directed mutagenesis using PCR. Experience with bacterial biodegradative systems is desired. Selected candidate will have the opportunity to work within a multidisciplinary collaboration which includes the Environmental Microbiology Group (within the Environmental Sciences Research Center) and the Biophysics/Molecular Modeling and Simulation Group (within the Molecular Sciences Research Center).

Send vitae, college transcripts, and the names of three references to: **Battelle, Pacific Northwest Laboratories, Dept. 1009, P.O. Box 1406, Richland, WA 99352. FAX: (509) 376-9099.** An Equal Opportunity Employer. U.S. citizenship required



Battelle

...Putting Technology To Work

Scientist/Sr. Scientist ES Technology

At Genentech, our success as a biotechnology leader is a result of state-of-the-art equipment combined with a progressive environment and, most importantly, the best people. Currently, we have a unique opportunity for a Scientist/Sr. Scientist to establish a laboratory for research on homologous recombination in ES cells.

In this group, which already has technical support staff and facilities budgeted, the primary focus will be to develop and extend this exciting technology. Ample opportunities exist for collaboration in specific disease areas. Ph.D. and related postdoctoral experience is essential.

Genentech offers excellent benefits as well as the opportunity to make significant scientific contributions. For immediate consideration, please send your resume to Wendy Reitherman, Genentech, Inc., Human Resources Dept. SDH, 460 Point San Bruno Blvd., South San Francisco, CA 94080. We actively support and promote affirmative action and equal employment opportunity. Women and minorities are encouraged to apply.

Genentech, Inc.

Interdisciplinary Scientist (GS-13)

The National Institute of Environmental Health Sciences (NIEHS) is one of the member Institutes of the National Toxicology Program (NTP). The Program was established by the United States Department of Health and Human Services to coordinate and manage the Department's toxicology programs which develop scientific information necessary to protect the health of the public from exposure to hazardous chemicals. The NTP is responsible for the design, conduct and evaluation of long term toxicology and carcinogenicity studies. This is a large and dynamic program being responsible for the conduct of over three hundred chronic studies since its formation in 1978. The long-term animal studies have been pivotal in hazard identification and have been extensively used in risk management.

In order to improve the overall design, conduct and evaluation of the long term studies, the Chemical Carcinogenesis Branch in the NIEHS is expanding its effort in the area of toxicokinetics and is recruiting a scientist to lead this effort. This position offers the possibility for the incumbent to play a significant role in changing the design and conduct of two-year rodent studies. Since these studies are widely used by regulatory and international agencies for setting standards, this position offers the opportunity to have an impact on how potential carcinogens are identified and managed.

The successful candidate will have a Ph.D., D.V.M. or M.D. degree and at least three years of independent research experience related to toxicokinetics. Expertise in bio-analytical chemistry would also be helpful. The initial appointment will be temporary with the possibility of conversion to a permanent appointment. Salary range is \$44,348-\$57,650. Citizens as well as non-citizens may apply.

For prompt consideration interested candidates should submit a letter, curriculum vitae, and the names of three references by **February 28, 1991** to:

Ms. Lisa Fletcher
NIEHS Personnel Office
Code HNV26
P.O. Box 12233
Research Triangle Park, NC
27709
(919) 541-7811

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CAREER OPPORTUNITIES

CAS, the world leader in chemical information services, has several openings for professionals who want to analyze and document chemical literature. While editorial experience is not required, a good command of the English language is needed. These are full-time career opportunities located in Columbus, Ohio. Our current needs are in these areas:

GENERAL BIOCHEMISTRY — MS or PhD is required.

ENDOCRINOLOGY — MS or PhD is required.

MAMMALIAN PATHOLOGICAL BIOCHEMISTRY — MS or PhD is required.

MAMMALIAN PHYSIOLOGY — MS or PhD is required and reading knowledge of Japanese preferred.

ZOOLOGY — MS or PhD is required.

PHARMACOLOGY — MS or PhD is required.

BS or MS in Chemistry with an Organic emphasis to extract and analyze data from the Chemical literature pertaining to the structures of chemical substances or to edit primary chemistry journals. No experience is required, but applicants should feel comfortable with work requiring a close attention to detail.

Located in a growing and dynamic metropolitan area, Columbus, Ohio has excellent housing, culture, recreational and transportation facilities. In addition to a competitive salary, CAS offers a professional working environment, flexible working hours, generous vacation, exceptional insurance programs, relocation reimbursement, and employer-paid retirement. To be considered, submit your resume to:



CHEMICAL ABSTRACTS SERVICE
Employment Department - S
P.O. Box 3012
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ILLINOIS MATHEMATICS AND SCIENCE ACADEMY A Pioneering Educational Community

The Illinois Mathematics and Science Academy seeks applications for anticipated vacancies and new faculty and staff positions for the 1991-92 school year. Applicants must have a proven record of exemplary performance. The Academy is located in Aurora, Illinois, forty miles west of Chicago, along the high-tech corridor, within twenty miles of Amoco Research Center, Fermilab, Nalco, AT&T Bell Laboratories, and Argonne National Accelerator Laboratory.

The Academy is a three-year, public, residential school for Illinois students highly gifted in mathematics and science. The 1991-92 student body will total 660 students. First year students enter having completed the equivalent of the ninth grade and engage in a comprehensive, challenging and rigorous curriculum that is concept-centered and outcome-based. Teaching is defined as "facilitating discovery through interconnecting", with new models of student achievement and success serving as the criteria for outcome-based assessment.

As a community of scholars, the Academy provides an environment that supports and nurtures individuals in roles as educational entrepreneurs while students fulfill roles as apprentice investigators. Faculty members are expected to be exemplary educators in their discipline and instructional skills, committed to interdisciplinary approaches, and innovative in pedagogical practices assuring student learning and success. **A minimum of a Masters degree is required for members of the faculty and administration.** Anticipated openings include:

Biology — The course, university biology, engages students in a wide variety of laboratory and classroom experiences requiring active experimentation and discovery. This course is a second year requirement. Upperclass electives are also offered.

Chemistry — Applicants must be able to teach college level chemistry. Concept-centered courses emphasize active student learning, focused on activities requiring experimentation, demonstrations, and problem-solving.

Physics — A non-calculus based physics course using extensive laboratory opportunities for conceptual development; senior elective electronics course emphasizing laboratory experiences with op amps, transistors, and IC's.

A minimum of a Masters degree and a record of exemplary performance is required.

Applications will be reviewed in February with interviewing in the early Spring.

Applications available from:

Dr. Connie Jo Hatcher
Director of Personnel and Planning
Illinois Mathematics and Science Academy
1500 West Sullivan Road
Aurora, Illinois 60506
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MICROBIOLOGIST

The Department of Biology at the University of Northern Iowa invites applications from individuals with the Ph.D. degree for a tenure-track assistant professor position effective August 1991. Teaching responsibilities will include general microbiology, applied microbiology, and participation in the University General Education program. An advanced course in one's specialty also may be offered. Specific research area in microbiology is open, but preference is given to an ecologic orientation. The research should invite participation by graduate (M.A.) and undergraduate (B.A. and B.S.) students. Post-doctoral teaching and/or research experience preferred. The department expects excellence in both teaching and research. Salary is competitive and commensurate with experience and qualifications. Applicants should send curriculum vitae, transcripts, statement of interests and goals in both teaching and research, relevant reprints, and three letters of recommendation. For full consideration application materials should be received by February 18, 1991. Send application and/or letters of inquiry to:

Dr. Alan R. Orr
Professor and Chair Search Committee
Department of Biology
University of Northern Iowa
Cedar Falls, IA 50614-0421
(Fax No.: 319-273-2893)

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HUMAN GENETICS AT THE UNIVERSITY OF CALIFORNIA LOS ANGELES

The Laboratory of Biomedical and Environmental Sciences (LBES) seeks a Director with an established program in human genetics/genomics. The Laboratory, which is funded by a contract from the Department of Energy to UCLA as well as by other sources, currently has three programmatic components: Biomolecular and Cellular Sciences, Nuclear Medicine, and Environmental Biology. The Director will have the opportunity to establish a fourth component in Human Genetics, which may include additional appointments. Candidates are expected to be at the cutting edge of the discipline and to have outstanding leadership qualities. The position carries a tenured academic appointment, at a level commensurate with qualifications, in any basic science or clinical department of the UCLA School of Medicine that would be appropriate for the Director's teaching and research interests.

Applications (with CV and bibliography) and nominations should be sent to

Dr. Elizabeth F. Neufeld, Chair
Search Committee, Director of LBES
Department of Biological Chemistry
University of California
Los Angeles, CA 90024-1737

The University of California is an Equal Opportunity Employer. Applications from women and minorities are strongly encouraged.

DIRECTOR, CENTER FOR AGING UNIVERSITY OF ALABAMA AT BIRMINGHAM

The Director is expected to be a scholar, scientist, and administrator with outstanding competence and wide scholarly recognition. He/she is charged with managing the resources of the Center for Aging for the particular purposes of research, service and teaching. The Center Director reports to two Vice Presidents, one for Academic Affairs and one for the Medical Center, to assure coordination of academic programs in Geriatrics and Gerontology across the UAB. Area of specialization is open, and applicants from all disciplines in Gerontology and Geriatrics are encouraged.

The Director will advance Center goals which are expected to be multidisciplinary in nature and University-wide in their involvement. The Director is responsible for the quality of all aspects of the UAB's Center for Aging and is expected to establish standards for performance for the Center through active leadership. Appropriate associate directors can be appointed, so that all aspects of Center involvement will be pursued actively.

The Center for Aging at the University of Alabama at Birmingham is involved with all aspects of University operations. Major long-term goals are for the Center to be outstanding among national peers and for UAB to be recognized as outstanding in the fields of Gerontology and Geriatrics. The Center is expected to have primarily a research orientation which is interdisciplinary and includes basic and applied research activities in biomedical and social/behavioral areas.

Applications will be reviewed beginning February 1, 1991 and will be accepted until the position is filled. Address responses to David G. Warnock, M.D., Chairman, Search Committee, N.R.T.C., UAB Station, Birmingham, Alabama 35294. The University is an Equal Opportunity/Affirmative Action Employer.

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The selected candidate will have responsibility for the isolation and purification of recombinant proteins. He/she will be part of the process development team and will have the opportunity to work closely with members of the molecular biology, analytical chemistry and chemistry teams. Qualified candidates must have an MS or PhD in Biochemistry/Chemistry and several additional years of experience in the purification of recombinant proteins. Industrial and large-scale processing experience is desirable.

Pharmaceutical Protein Chemist

This scientist will lead research involving small protein freeze-dry formulation and stability studies for parenteral drug development. Practical experience in the area of formulation, freeze-dry process development and characterization of freeze-dried protein drugs is essential. Working knowledge of GMP necessary to meet compliance criteria for IND submission is preferred. Candidate must have a Ph.D. and several years of industrial experience.

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If you are interested in this position, please send your Curriculum Vitae with a list of publications and the names of three referees to: Rita Gloor, Personnel Manager, GLAXO IMB SA., 46, route des Acacias, 1211 Geneva 24, Switzerland.

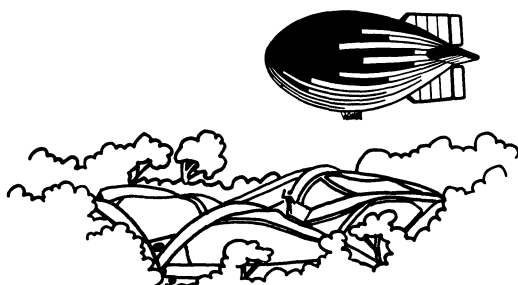
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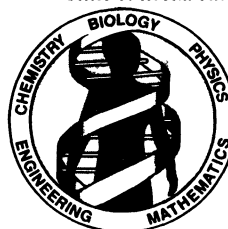
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POSITIONS OPEN

POSTDOCTORAL POSITIONS. Two positions are available fall 1991 for research on the methanogenic archaeobacteria pertaining to: (i) gene expression in regulated catabolic pathways and (ii) biochemistry of membrane proteins. Contact: **James Ferry, Department of Anaerobic Microbiology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0305. Telephone: 703-231-7121. Virginia Tech is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.**

A **POSTDOCTORAL POSITION** is open at the University of Washington for a **PHYSICAL OCEANOGRAPHER** interested in research on shear and turbulence at the equator. The candidate should be experienced in collecting data at sea and in analyzing oceanographic data, will work under the direction of Dr. Michael Gregg, and will participate in the Tropical Instability Waves Experiment in November/December 1991. Recent Ph.D.'s with interest and experience submit résumé and names of three references to: **Linda Marsh, Applied Physics Laboratory, University of Washington, 1013 N.E. 40th, Seattle, WA 98105.**

POSTDOCTORAL POSITION. Available immediately with funding for 4 years to study cellular events in kidney stone formation. Studies will assess the molecular and cellular mechanisms governing renal oxalate transport. Interested persons should send their curriculum vitae and three letters of reference to: **Dr. Cheryl R. Scheid, Department of Physiology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA 01655. An Equal Opportunity/Affirmative Action Employer.**

POLYMER/ORGANIC CHEMIST. POSTDOCTORAL RESEARCH on molecular recognition of proteins by metal-chelating polymers and novel polymerized liposome systems. *Caltech is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.* Send résumé and names of three references to: **Professor F. H. Arnold, Division of Chemistry and Chemical Engineering 201-41, California Institute of Technology, Pasadena, CA 91125.**

POSTDOCTORAL POSITION

Available July 1991 for 2 years to study monoclonal antibody-mediated therapy of leukemia, including detection of minimal residual disease using molecular probes, defining mechanisms of cellular cytotoxicity, and purification of hematopoietic stem cells as well as related studies in myeloid differentiation examining proto-oncogene and surface antigen changes mediated by cytokines and other mediators. Experience in molecular biology is essential. Working environment includes close proximity to numerous basic and clinical researchers in hematology/oncology and the Pittsburgh Cancer Institute Bone Marrow Transplantation Program. Send curriculum vitae with three references to: **Dr. Edward D. Ball, c/o Dr. Alan Winklerstein, Division of Hematology, University of Pittsburgh, Montefiore University Hospital, 3459 Fifth Avenue, Pittsburgh, PA 15213 or call Dr. Ball at: 603-646-7671.**

TWO POSTDOCTORAL POSITIONS ELECTROPHYSIOLOGIST MOLECULAR BIOLOGIST

One position, in electrophysiology, involves the study of mechanisms of signal transduction in single cells from smooth muscle or invertebrate retina. The work will entail patch clamping, [Ca]_i monitoring, flash photolysis, enzymology, and receptor binding techniques. Candidates for this position should have a background and training in electrophysiology.

The second position, in molecular biology, is to initiate molecular genetic analysis of small peptides involved in hypertension/cell calcium levels. The work involves screening expression libraries and overexpression of candidate peptides. Applicants for this position should have training in biochemistry and/or molecular biology and genetics.

Applicants should send curriculum vitae and names of three references by 1 March 1991 to: **Dr. Albert G. Moat, Administrative Director, Program in Cell Regulatory Biology, Marshall University School of Medicine, 1542 Spring Valley Drive, Huntington, WV 25755-9330. Marshall University is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN



Agricultural Research Service
United States Department of Agriculture

POSTDOCTORAL RESEARCH AFFILIATE, MOLECULAR BIOLOGIST. Photosynthesis Research Unit, Urbana, Illinois. A temporary position NTE 2 years is available to investigate proton-coupled transport proteins in the plasma membrane. The major focus of this project will be to clone the genes for those porters by complementing yeast transport mutants with a plant cDNA library constructed in a yeast expression vector. A recent Ph.D. with considerable experience in biochemistry and molecular biology is required. The annual salary is \$24,705 with fringe benefits. Position available immediately. Applicants should submit curriculum vitae, and copies of relevant papers or preprints to: **Dr. Daniel R. Bush, University of Illinois, 252 Davenport Hall, Urbana, IL 61801. Telephone: 217-333-6109. Applications should be marked 1N002. USDA is an Equal Opportunity Employer. Women and minorities are urged to apply.**

POSTDOCTORAL OPENINGS, University of California, San Francisco (UCSF). A consortium of ten investigators solicit applications for postdoctoral training in the molecular biology of normal and neoplastic cells. *We specifically seek applications from underrepresented minorities and women.* Training is available in tumor virology, cell biology, recombinant DNA, mammalian embryology, developmental genetics, molecular pathogenesis, transgenic animals, and cellular and molecular immunology. Applicants should have a Ph.D. or M.D. and should be U.S. citizens. Further information can be obtained from: **J. Futa, G. W. Hooper Foundation, UCSF, Box 0552, San Francisco, CA 94143.**

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POSTDOCTORAL POSITION. Available immediately to investigate the molecular mechanisms of phagocyte chemotactic receptor signal transduction. Our program involves the molecular cloning, structure-function analysis, and signal transduction properties of the formyl peptide and other G-protein-coupled receptors of human phagocytic cells, using the *Xenopus* oocyte and other heterologous expression systems. Salary: \$25,000 to \$28,000.

Contact and send curriculum vitae to:

**Philip Murphy, M.D.,
Laboratory of Clinical Investigation
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 10, Room 11N112
Bethesda, MD 20892
Telephone: 301-496-1343
NIH is an Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP. M.D. or Ph.D. NIH-funded training grant in endocrinology with emphasis on the molecular basis of thyroid hormone action. *Permanent U.S. residency mandatory.* Background in molecular biology desirable but not essential. Please send statement of career objectives, two letters of recommendation, and curriculum vitae to: **J. H. Oppenheimer, M.D., Professor of Medicine and Cell Biology and Neuroanatomy, Box 91 UMHC, University of Minnesota, 420 Delaware Street S.E., Minneapolis, MN 55455. The University of Minnesota is an Equal Opportunity Educator and Employer, and specifically invites and encourages applications from women and minorities.**

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A position is available to study the role of cellular immune mechanisms on induction and maintenance of autoimmune disease. Applicants must have a Ph.D. or M.D. with training in cellular immunology. The successful candidate will be expected to participate in ongoing collaborative projects with the immunology, rheumatology, and gastroenterology programs as well as establishing independent lines of investigation. Send curriculum vitae and names of three references to: **Dr. Paul T. Fawcett, Research Department, Alfred I. duPont Institute of the Nemours Foundation, P.O. Box 269, Wilmington, DE 19899. Equal Opportunity Employer, M/F.**

POSTDOCTORAL ASSOCIATE

Full-time position available for a recent Ph.D. to work on projects involving human genome mapping and molecular analysis of human cancers. Prior training in recombinant DNA and molecular cloning techniques preferred. Interested candidates please send résumé to: **J. R. T. Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. Equal Opportunity Employer.**

PROTEIN ENGINEERING. POSTDOCTORAL RESEARCH in design and construction of novel enzyme catalysts. Experience with mutagenesis and Ph.D. in molecular biology or biochemistry preferred. *Caltech is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.* Send résumé and names of three references to: **Professor F. H. Arnold, Division of Chemistry and Chemical Engineering 201-41, California Institute of Technology, Pasadena, CA 91125.**

POSTDOCTORAL PHOTOSYNTHESIS. Available March 1991 for studies of the O₂-evolving process of photosynthesis using biochemical, spectroscopic, genetic, and molecular biological approaches. The position is for 1 year with the possibility of extension. Salary is highly competitive. Additional sabbatical and graduate student opportunities are available to U.S. citizens under Associated Western Universities competitive programs. Send curriculum vitae, short statement of research interests, and names of three references, with telephone numbers, to: **Dr. Michael Seibert, Solar Energy Research Institute, 1617 Cole Boulevard, Golden, CO 80401. We are an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.**

POSTDOCTORAL AND RESEARCH ASSOCIATE POSITIONS IN MOLECULAR NEUROBIOLOGY. Two positions are available for qualified candidates with training and experience in recombinant DNA and molecular biology. Start dates: now to 1 July 1991. Starting salary range: \$20,000 to \$24,000 per year based on qualifications. Research involves the structure, function, and expression of human genes in the nervous system. Excellent facilities, DNA/RNA synthesizer, PCR, sequencing systems, tissue culture facilities, computer support in the laboratory. Challenging and interesting projects under way. Experience in bluescript cloning, site-directed mutagenesis, ribozyme constructs, transgenic mice desirable. Send curriculum vitae and names and addresses of three references to: **Dr. Terry Joe Sprinkle, VA Medical Center, Research Service 151, Neurochemistry Laboratories, Augusta, GA 30910. Telephone: 404-721-2029 or 724-5116, ask for ext. 2438 (FAX).**

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To study and develop artificial human double-minute chromosomes (acentric chromosome fragments) as megabase cloning vehicles for human chromosomal DNA. The project involves human genome mapping. Ph.D. in a biological science or equivalent required. Molecular biology experience preferred. Will consider applicants who possess experience beyond Ph.D. for appointment as research scientist. Position funded for 2 years with possibility of further funding. Send curriculum vitae to: **Dr. Peter Hahn, Department of Radiology, State University of New York Health Science Center at Syracuse, 750 East Adams Street, Syracuse, NY 13210. Review of curricula vitae will begin immediately and continue until position is filled.**

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POSTDOCTORAL RESEARCH PROGRAM

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Inflammation Cell Biology (David Liu) Study the interaction of leukocytes and endothelial cells by using molecular and cellular biology techniques, focusing on mechanisms of cell activation and signal transduction.

Recombinant Antibodies (Lou Houston) Position funded by the National Cooperative Drug Discovery Group (NCI) to investigate novel immunotoxins derived from recombinant single-chain antibodies produced in *E. coli*.

Vascular Cell Biology (Raymond Ivatt) Study the regulation of vascular smooth muscle behavior with a focus on wound healing.

Random Peptides (James Devlin) Using recombinant bacteriophage peptide libraries, characterize and optimize small peptides that interact with cell-surface receptors.

Acute Inflammation/Septic Shock (Abla Creasey) Using established animal models, study the roles of cytokines and proteins of the complement/coagulation cascades in septic shock.

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Molecular Epidemiology of Papillomaviruses (Michele Manos) Study the biology and epidemiology of genital HPVs by using PCR technologies. Projects include analysis of novel HPVs, retrospective and prospective cancer studies, and defining cell and viral factors in cervical neoplasia.

Molecular Analysis of Human Retroviruses (John Sninsky) Sequence variability, viral resistance and pathogenesis are being investigated. New members of the human retrovirus family and endogenous elements are also studied.

Genetics of Autoimmune Diseases (Henry Erlich) Study the molecular basis of susceptibility to autoimmune diseases in humans, focusing on both the MHC and the T-cell receptor genes.

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We require a Ph.D. or M.D. and at least 2 years' postdoctoral research experience. You must also have a proven record of creative, original research.

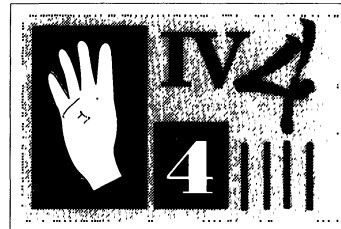
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In this position, you must have a BS in Biology or a related field, a good understanding of vascular biology and experience with techniques commonly used for in vivo and in vitro research.

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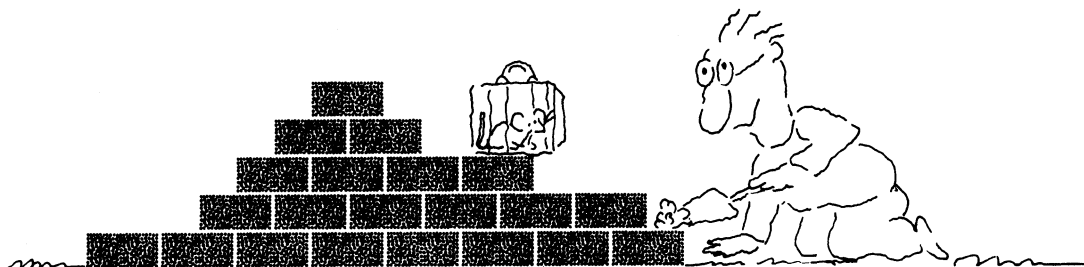
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For consideration, please call Darlene Markovich at (415) 494-5214; or fax your cv/resume to (415) 494-5151; or send it to: ALZA, Employment Department, 950 Page Mill Rd., P.O. Box 10950, Palo Alto, CA 94303-0802. EOE.

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Genentech, Inc.

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POSTDOCTORAL POSITION

NIH funding available to study protein structure-function and regulation of Mg^{2+} transport systems of *Salmonella typhimurium* including analysis of Mg^{2+} and O_2 regulated promoters, *TnpA*, *TnblA*, and epitope tag analysis of membrane topology, and directed mutagenesis of transport proteins. Please send curriculum vitae and names of references to: **Dr. M. E. Maguire, Department of Pharmacology, Case Western Reserve University, Cleveland, OH 44106. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP. Available for studies on the molecular basis of cell differentiation. Limited to those with recent Ph.D.'s. Prefer background in molecular biology. *Stanford is an Equal Opportunity Employer through Affirmative Action.* Send curriculum vitae and letters of reference to:

Frank E. Stockdale, M.D., Ph.D.
Stanford University School of Medicine, M211
Stanford, CA 94305-5306

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE. Position open 1 April 1991 to participate in research supported by the National Eye Institute dealing with the biochemistry of receptors in the visual system. Training in biochemistry required. Send curriculum vitae and names and addresses of three references to: **Dr. Edward Kean, Eye Research Laboratory, Room 653, Wearn Building, Case Western Reserve University, Cleveland, OH 44106. Equal Opportunity/Affirmative Action Employer.**

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This postdoctoral will emphasize the isolation and characterization of psychrophilic phototrophic microbes from Antarctica. The ribulosebiphosphate carboxylase/oxygenase will be isolated and the genes sequenced to determine relatedness to psychrotrophic species. The successful candidate needs to have experience in molecular sequencing techniques. Applicants should send curriculum vitae and have three letters of reference sent to: **Dr. J. Robie Vestal, Department of Biological Sciences, University of Cincinnati, OH 45221-0006 by 1 March 1991.**

POSTDOCTORAL FELLOW

Postdoctoral position is immediately available with an active group studying the mechanisms of growth factor and proto-oncogene intracellular signaling, development of novel agents with activity against signal transduction targets. Position offers excellent opportunities for collaboration and development of independent research ideas while working in a stimulating research environment with modern, well-equipped facilities. Stipend is based on qualifications and is highly competitive, with excellent benefits. Suitable for a Ph.D., M.D., or D.V.M. with a strong background in biochemistry, cell biology, pharmacology, etc. Send current curriculum vitae and names, addresses, and telephone numbers of three references to: **Dr. M. B. Stemerman, Department of Medicine, New York Medical College, Valhalla, NY 10595. An Equal Opportunity/Affirmative Action Employer.**

CLINICAL/BASIC NEUROSCIENCE POSTDOCTORAL FELLOWSHIPS. University of Pittsburgh Medical Center. NIA-funded program in behavioral neurology/geriatric psychiatry for neurologists, psychiatrists, or internists. Areas include delirium, dementia, normal aging, psychiatric aspects of neurologic disease, pharmacology, epidemiology. Basic research opportunities in NMR imaging and spectroscopy, neurotrophic factors and brain injury, and others. Superb preceptors, facilities, and collaborations available.

BASIC RESEARCH POSTDOCTORAL FELLOWSHIPS. In neurotrophic and membrane responses to brain injury in aging, utilizing rodent models, cell culture, and human brain. Immunocytochemistry experience highly desirable; experience in small animal surgery, cell culture, or molecular biology valuable.

Must be U.S. citizens or permanent residents. Send curriculum vitae and three references to: **Steven T. DeKosky, M.D., Training Program Director, University of Pittsburgh, Alzheimer's Disease Research Center, 3600 Forbes Avenue, Suite 400, Pittsburgh, PA 15213. Telephone: 412-647-2160.**

Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

HARVARD SCHOOL OF PUBLIC HEALTH INTERDISCIPLINARY PROGRAMS IN HEALTH POSTDOCTORAL FELLOWSHIPS



The Program in Environmental Health and Public Policy invites applications from promising graduates of advanced degree programs in the natural and social sciences. The program focuses on the scientific and analytic foundations for environmental decisions. Fellows conduct basic scientific research and participate in applied policy projects. Recently the program has emphasized the role of risk analysis in environmental decision making. Topics of special interest include use and validation of scientific judgment in risk assessment; improving estimates of exposure/dose, design, and interpretation of bioassays; and use of decision analysis in environmental health.

Fellows will be appointed for a term of 1 year starting 1 September 1991. Awards may be renewed. Application deadline: 15 March 1991.

For information, write to:

Professor John S. Evans
Attention: IPH Fellowships
Harvard School of Public Health
665 Huntington Avenue
Boston, MA 02115
Telephone: 617-432-1258

POSTDOCTORAL FELLOW. Position open for postdoctoral fellow with background in biochemistry, immunology, or pharmacology. Work involves ELISA and separation science of venom components. One-year appointment with the possibility of a second year upon mutual agreement. Salary: \$25,000. For an interview, send résumé to: **Dr. Joseph W. Burnett, University of Maryland Hospital, Department of Dermatology, 405 West Redwood Street, 6th Floor, Baltimore, MD 21201.**

ARNOLD RESEARCH FELLOWSHIPS

The Arnold Arboretum of Harvard University announces the availability of fellowship appointments (Putnam or Mercer Fellowships or Arnold Arboretum Associate positions) of variable, renewal duration for specific research projects utilizing the landscapes (335 acres) or the library (250,000 volumes), herbarium (2,600,000 specimens) and living (5,000 taxa) collections of the Arnold Arboretum. The number of awards each year will depend upon the availability of funds. Applications should include a letter of introduction briefly describing the proposed project and prior contacts with Harvard staff or faculty, and a résumé listing three references. Send by 1 March 1991 to: **Dr. Robert E. Cook, Director, Arnold Arboretum, 125 Arborway, Jamaica Plain, MA 02130.**

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.**

POSITIONS OPEN

POSTDOCTORAL FELLOW POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY OF THE EXTRACELLULAR MATRIX

Position available July 1991 to study the structure and function of fibrillin and other ECM macromolecules. Research requires use of recombinant DNA techniques. Experience with expression systems is desirable. This position is in a department composed of six modern laboratories and an electron microscope facility, all directed toward different aspects of connective tissue research. Please send curriculum vitae with names, addresses, and telephone numbers of three references to:

Lynn Sakal, Ph.D.

Research Unit

Shriners Hospital for Crippled Children
Department of Biochemistry and Molecular Biology
Oregon Health Sciences University
3101 S.W. Sam Jackson Park Road
Portland, OR 97201

STANFORD UNIVERSITY POSTDOCTORAL FELLOWSHIPS

Postdoctoral fellowships are available for basic research on the molecular and cellular aspects of gastrointestinal disease. Faculty and their current interests include:

- **Christine Cartwright:** Molecular mechanisms of oncogene activation in intestinal epithelia; role of protein-tyrosine kinases.

- **Anson Lowe:** Protein sorting in the exocrine pancreas; organelle biogenesis.

- **Bishr Omary:** Characterization of cell surface epithelial membrane proteins and their sorting.

Stipends will be funded by the NIH training grant program. The requirements are a Ph.D. or M.D. and U.S. citizenship or permanent residency. Please send curriculum vitae and approximate date of availability to: **Peggy George, Division of Gastroenterology, S-069, Stanford University School of Medicine, Stanford, CA 94305-5100.**

Stanford University is an Affirmative Action/Equal Opportunity Employer.

INDOOR AIR EXPOSURE AND RISK ASSESSMENT RESEARCH

The Lawrence Berkeley Laboratory's Indoor Environment Program is seeking highly qualified scientists for the following positions:

- **STAFF SCIENTIST II, 100% (C/6164):** Direct studies of human cell mutations resulting from environmental exposures. Set up and perform human mutation assays, including HLA-A and glycoprotein-A assays, identify suitable cohorts for study, and organize exposure assessment protocols. Prefer Ph.D. in environmental health/genetic toxicology equivalent together with experience in biomonitoring and use of human bioassays for risk assessment. Experience in carrying out studies on human populations in the field, training in chemical exposure assessment, and industrial hygiene experience.

- **STAFF SCIENTIST II, 75% (C/6161):** Conduct theoretical research in toxic risk assessment. Develop and implement mathematical models of deposition, metabolism, and toxicity for indoor organic air pollutants and environmental pollutants. Prefer Ph.D. in biology and toxicology or equivalent together with demonstrated expertise in computer modeling of pharmacokinetics/pharmacodynamics and risk assessment for organic pollutants. Experience with mainframe/supercomputing environments and high level programming languages. Familiarity with indoor air pollution and exposure to toxic air pollutants desirable. Supervise graduate students and postdoctoral fellows working on the project, prepare and publish papers in refereed archival journals, and generate funding to establish new research projects. Ability to identify needed research, formulate research projects. Strong research background and record of publications in the research areas described above.

Competitive salary commensurate with experience, plus comprehensive benefits. Please send résumé, including publication list, and names of references (must indicate Job C/6164 or C/6161) to: **Employment Office, Lawrence Berkeley Laboratory, 90-1042, #1 Cyclotron Road, Berkeley, CA 94720, Attention: M. A. Holman. Telephone: 415-486-5398. An Equal Opportunity Employer.**

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- Risk and Safety Assessment
- Organic Chemistry
- Aquatic Toxicology
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POSITIONS OPEN

PHYSICIAN

The National Heart, Lung, and Blood Institute is recruiting for a physician who is Board-certified in cardiology and is an expert in carrying out studies to determine forearm vascular blood flow and resistance. The candidate should have broad experience in performing forearm plethysmography, in infusing drugs intra-arterially, and in performing treadmill and bicycle exercise testing. The candidate must also have expertise in the mechanisms responsible for the control of vascular tone, including the role of the endothelium. Salary range: \$45,000 to \$60,000. Contact: **Dr. Stephen Epstein, Cardiology Branch, Building 10, Room 7B15, 9000 Rockville Pike, National Institutes of Health, Bethesda, MD 20892.**

NIH is an Equal Opportunity Employer.

ELECTROPHYSIOLOGIST

The Cardiology Branch of the National Heart, Lung, and Blood Institute, National Institutes of Health, is recruiting for an electrophysiologist to perform clinical and research investigations. The need for a senior, experienced electrophysiologist is essential as many high-risk patients, including those with hypertrophic cardiomyopathy (HCM), will be routinely investigated. The applicant must also be expert in performing echocardiographic investigations and exercise studies and must be intimately familiar with molecular genetics and techniques relating to identification of gene mutations as a cause of HCM. Annual starting salary: \$76,000 to \$101,300. Applicants must hold M.D. degree. Send curriculum vitae and three letters of recommendation to: **Dr. Stephen Epstein, Cardiology Branch, Building 10, Room 7B15, 9000 Rockville Pike, National Institutes of Health, Bethesda, MD 20892.**

NIH is an Equal Opportunity Employer.

SENIOR ENTOMOLOGIST/INSECT PHYSIOLOGIST. ISK-Mountain View Research Center (ISK-MRC), an agrochemical research facility located in Sunnyvale, California, has an immediate opening for a Ph.D. entomologist with postdoctoral experience in insect physiology. The position requires the design and implementation of innovative assays to assess the effects of novel bioactive compounds against insect pests. Candidates must have expertise in the dissection and preparation of insect organs and in the use of RIA and chromatographic techniques.

To be considered for this position, please send your curriculum vitae including salary requirements, list of publications, and the names, addresses, and telephone numbers of three references to: **Dr. James A. Klocke, ISK-MRC, 1195 West Fremont Avenue, Sunnyvale, CA 94087.**

WILDLIFE ECOLOGISTS

The Center for Wildlife Ecology (CWE) of the Illinois Natural History Survey (INHS) invites applications from Ph.D.-level scientists for two full-time, state-supported research positions at the assistant level. Successful candidates will be expected to develop rigorous, extramurally funded research programs. For one position, we seek a **POPULATION ECOLOGIST** with strong quantitative skills. Preference will be given to candidates with backgrounds in statistics, modeling, and/or genetic analysis. The successful candidate will be expected to develop an autonomous research program involving field investigations in his/her area of specialty and to advise and collaborate with other staff members. For the second position, we seek a **MAMMAL ECOLOGIST** to do field studies of population ecology. The INHS is located on the campus of the University of Illinois at Urbana-Champaign, and several staff hold academic appointments and advise graduate students. The staff exceeds 225 employees charged by legislative mandate to perform research relating to the biological resources of Illinois. The CWE also maintains scientific staff at two permanent field stations. For full consideration, all application materials should be received by 1 March 1991. Qualified applicants should send a cover letter, résumé, copies of representative publications, a brief statement of future research goals, and have three letters of reference sent to: **Ms. Jacqueline Sanders, Personnel Officer, Illinois Natural History Survey, 607 East Peabody Drive, Champaign, IL 61820. Telephone: 217-244-7790. The Illinois Natural History Survey is an Affirmative Action/Equal Opportunity Employer. Women and minority candidates are encouraged to apply.**

POSITIONS OPEN

ASSISTANT RESEARCH SCIENTIST. Postdoctoral position available in the laboratory of Dr. Emanuel Meller, Department of Psychiatry, to conduct research in CNS molecular pharmacology. Experience in two or more of the following areas required: cell culture, immunocytochemistry, gel electrophoresis, second messenger assays (cAMP or PI), molecular biology techniques (blotting, transfection, hybridization). Send curriculum vitae to: **Ms. Singh, Personnel Department, New York University Medical Center, 550 First Avenue, New York, NY 10016. An Equal Opportunity Employer, M/F.**

ASSOCIATE RESEARCH SCIENTISTS. Two positions available immediately to study: (i) cellular oncogenes in chemical carcinogenesis and (ii) molecular toxicology and evolution in fishes. Candidates must have Ph.D.; experience in molecular biology and/or cell biology is desirable. Attractive salary and benefits. Send curriculum vitae and names of three references to: **Dr. S. J. Garte, Institute of Environmental Medicine, New York University Medical Center, A. J. Lanza Research Laboratories, Long Meadow Road, Tuxedo, NY 10987. Equal Opportunity Employer.**

RESEARCH PLANT PATHOLOGIST. Position offered in Athens, Georgia. The position serves as **PROJECT LEADER** for Diseases of Southern Forests Unit. Project mission is to develop effective controls for damaging diseases of southern pines in plantations, seed orchards, and nurseries. Specific problems assigned are: (i) To identify new sources of resistance, including as many types into resistant orchard programs as possible; (ii) to increase understanding of virulence potential in fungus and genetic and physiologic basis of resistance in tree hosts; and (iii) to gain basic knowledge on biology of dogwood anthracnose and influence of environmental factors on disease development.

Incumbent will develop personal research assignment within problem area (i) or (ii), and serve as adviser and consultant on rust diseases, of pines, pitch canker, and seed orchard diseases, to federal, state, university, and industrial organizations. Will also serve as Southeastern Station's technical authority on all disease problems on forest trees in the Southeast.

Applicants should have Ph.D. in plant pathology with demonstrated ability to provide technical and administrative leadership to research program of considerable size and scope.

Starting salary will range from \$50,342 to \$65,444 per year.

Qualified individuals should send one-page résumé and/or SF-171, Application for Federal Employment, to:

**Nathan Presley
Attention: Early Alert (SE-D-26-90)
Southeastern Forest Experiment Station
P.O. Box 2680
Asheville, NC 28802
Telephone: 704-257-4380**

Recruitment ends 15 February 1991.

RESEARCH SCIENTIST

Research scientist required to supervise and execute animal studies of concurrent manometry and videofluoroscopic of the esophagus and pharynx. Responsibilities also include implanting markers into the esophagus and pharynx of experimental animals, executing in vitro organ bath studies of the esophagus, and data analysis for data from all studies.

Requirements: M.S. in biochemistry (specialization in gastroenterology); 3 years research experience including studies of motor function of gastrointestinal tract; in vivo and in vitro studies of motor function in esophagus; in vivo and in vitro studies of motor function in pharynx; muscle strip and organ bath studies; and synchronized video-manometry. Experience may have been gained pursuing postgraduate studies and research.

Hours: 8 a.m. to 5 p.m. Salary: \$27,000. Send résumé to:

**Bernice Kimbrough
Milwaukee Downtown Job Service
819 North 6th Street
Milwaukee, WI 53202**

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Research Biologist

Eisai Research Institute of Boston, Inc. has several openings for Research Biologists to conduct basic pharmaceutical research in our Andover, Massachusetts state-of-the-art research facility which opened in October, 1989.

Suitable candidates will have a B.S. or M.S. degree in a biological science with demonstrated experience in one or more of the following areas: cell culture, immunochemistry, molecular biology, receptor binding assays, enzymology, and protein purification and characterization. Preference will be given for prior full-time research experience. Knowledge of statistical analysis and computers is desirable. The ability to work both independently and in collaboration with our multidisciplinary research team is important.

*Eisai offers competitive salary and benefits. Please send resume and 3 references, to: **Director of Administration, Eisai Research Institute, 4 Corporate Drive, Andover, MA 01810.***

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Pharmacologist

You will develop new pharmacological assays and interface with a staff of life scientists performing pre-clinical animal studies. Requirements include a Ph.D. in Pharmacology, Pharmacy, or related field with two or more years experience, including the isolation and quantification of cytokines or other proteins from tissue, plasma, and serum samples.

Postdoctoral Scientist

As a postdoctoral scientist in Molecular Biology, your primary responsibilities will include expression and evaluation of novel, mutated or modified forms of cytokines. In addition to a Ph.D. in Molecular Biology or related field, you should have experience in DNA cloning, sequencing, site-directed mutagenesis and/or transfection of mammalian cells.

Postdoctoral Scientist

As a vital member of our Metabolic Bone Disease Program, you will work within a multidisciplinary research team that promotes scientific synergy and creativity. Specifically, you will be involved in investigating the role of peptide growth factors as they relate to the regulation of bone formation and resorption. This will require a Ph.D. in a relevant discipline, such as Biochemistry, Physiology or Endocrinology.

As A Celtrix employee, you will enjoy an excellent salary and benefits package along with the opportunity to make a significant impact in a stimulating environment that fosters autonomy and innovation. For immediate consideration, please send your resume to: Human Resources, Celtrix Laboratories, 2500 Faber Place, Palo Alto, CA 94303. An equal opportunity employer.

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Amgen has emerged as the recognized leader in the discovery and development of innovative human therapeutic products through applications of recombinant DNA technology. As a result of our ongoing commitment to excellence in research, we have an immediate opportunity for an experienced Research Associate to participate in the expression of recombinant proteins in prokaryotic systems.

Qualified candidates for this position must have a BS or MS in Molecular Biology, Biochemistry or a related discipline and a minimum of two years' experience in the cloning and expression of heterologous genes in prokaryotic systems.

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This 1991 CAROLINA CONFERENCE will be held May 2 through 4 at the Kenan Center on the campus of The University of North Carolina at Chapel Hill



THE PROGRAM IN MOLECULAR BIOLOGY & BIOTECHNOLOGY

Sessions and Participants:

- I. Kinetochore, Centromeres, & Segregation
(*Salmon, Brinkley, Rieder, and Mitchison)
- II. Chromosome Dynamics in the Cell Cycle
(*Cleveland, Gerace, Agard, Earnshaw)
- III. Chromosome Organization
(*Zakian, Broach, Pardue)
- Poster Session
- IV. Chromosome Maintenance: Repair, Replication, Recombination
(*Resnick, Petes, Hanawalt, Fangman, Pukkila)
- V. Chromosome and Sequence Evolution
(*Edgell, Radman, Langley, Charlesworth)
- VI. Chromosome Transfer and Artificial Chromosomes
(*Bloom, Ruddle, Fantes, Moyzis, Heiter)

* Denotes chair of session

The total cost of registration and meals is \$250 (does not include lodging). Apply by March 1 by writing a brief letter describing your research interests and their relevance to this meeting. The number of participants is limited. For further information contact Jo Ann McPherson, The Program in Molecular Biology & Biotechnology, CB# 7100-S, 130 MBRL, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7100.

Co-sponsored by the North Carolina Biotechnology Center, National Institute of Environmental Health Sciences, and the Environmental Protection Agency, Research Triangle Park, NC.

POSITIONS OPEN

CYTOGENETICS. The Department of Pathology at Beth Israel Hospital, a major teaching affiliate of Harvard Medical School, seeks an M.D. or Ph.D. with experience in cytogenetics. Our new service, planned in conjunction with the Department of Obstetrics and Gynecology, will encompass amniotic fluid, chorionic villus, blood, bone marrow, tissue, and solid tumor cytogenetics. Opportunities include clinical consultations, introduction of new technologies, collaboration with other diagnostic areas, and participation in basic research. Send curriculum vitae and names of three references to: **Michael Mitchell, M.D., Beth Israel Hospital, Department of Pathology, 330 Brookline Avenue, Boston, MA 02215. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE I. For design, fundamental research, and publication in the area of chemical sensor devices, including characterization and modification of microporous materials in thin films, and application for chemical sensors using flow apparatus and computer modeling of adsorption and gas diffusion in porous materials. M.S. in inorganic chemistry in area of tailored sorption in microporous materials. Forty hours per week; \$20,000 per year. Send résumé to: **New Mexico Department of Labor, Cost Center 1001, 501 Mountain, N.E., Albuquerque, NM 87102, Job Order Number 334092.**

RESEARCH ASSISTANT, PHARMACOLOGY. B.S. in pharmacy and 5 years of related experience in pharmacological research. Conduct pharmacological experiments with minimal supervision including maintenance of primary cultures of neuronal and continuously growing tumor cells. Responsible for the radioimmunoassay of cAMP and isolation of radioactive cAMP and ATP from cell cultures. Design and interpret dose-response experiments accurately without supervision. Calculation of results with BASIC programs and graphical presentation of data for both internal and external evaluation in scientific journals. Extract and evaluate information from the scientific literature. Forty hours per week. Salary: \$23,000 per year. Application by résumé to: **Colorado Department of Labor and Employment, 600 Grant Street, #900, Denver, CO 80203-3528. Refer to Order No. CO3195335.**

RESEARCH ASSISTANT. For northeastern Ohio educational institution to characterize regulation of guanylate cyclase by atrial natriuretic peptide and purify proteins; prepare toxic chemical and radioactive samples; perform radioimmunoassay; run gel electrophoresis; induce antibodies, iodination nucleotides; develop autoradiogram; perform surgery on animals; enzyme assay; utilize histological techniques, spectrophotometer technique, biomembrane preparation technique, and HPLC (high-performance liquid chromatography) technique. No experience required in above duties but applicants will qualify with 6 months of experience as a graduate research assistant (experience must be in preparing red blood cell membrane for use in testing enzyme activity; perform surgery on animals; assay activity of Na⁺-K⁺ ATPase enzyme using spectrophotometer; use electromicroscope and histological technique to determine biomembrane quality; perform radioisotope labeling technique), and an M.S. in biology or biochemistry (must have taken one course each in histology technique, electromicroscope technique, DNA recombination, tissue culture, biochemistry, radioisotopes, human physiology, and advanced cardiovascular physiology). Must be willing to work with radioisotope material and highly toxic chemicals. Monday to Friday, 9 a.m. to 5 p.m. Salary: \$18,677 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#1255650, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

COURSES AND TRAINING

GRADUATE STUDIES IN BIOLOGY. The Department of Biology at Northeastern University invites applications for graduate study leading to M.S. or Ph.D. degrees with concentration in biochemistry, botany, ecology, marine biology, microbiology, molecular and cellular biology, physiology, or vertebrate biology. Teaching assistantships (including tuition waiver) available for qualified applicants beginning September 1991. For information, contact: **Graduate Coordinator, Department of Biology, Northeastern University, Boston, MA 02115. Northeastern University is an Equal Opportunity/Affirmative Action/Title IX Employer.**

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Call or send your résumé to:

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ANNOUNCEMENTS



Tourette Syndrome Association, Inc.

RESEARCH GRANTS AND FELLOWSHIPS

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For application, call: **Tourette Syndrome Association, 42-40S Bell Boulevard, Bayside, NY 11361. Telephone: 718-224-2999. FAX: 718-279-9596.**

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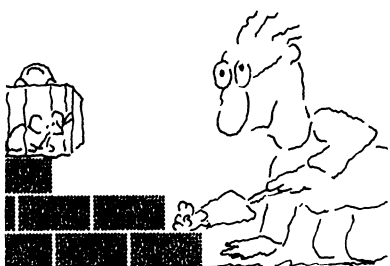
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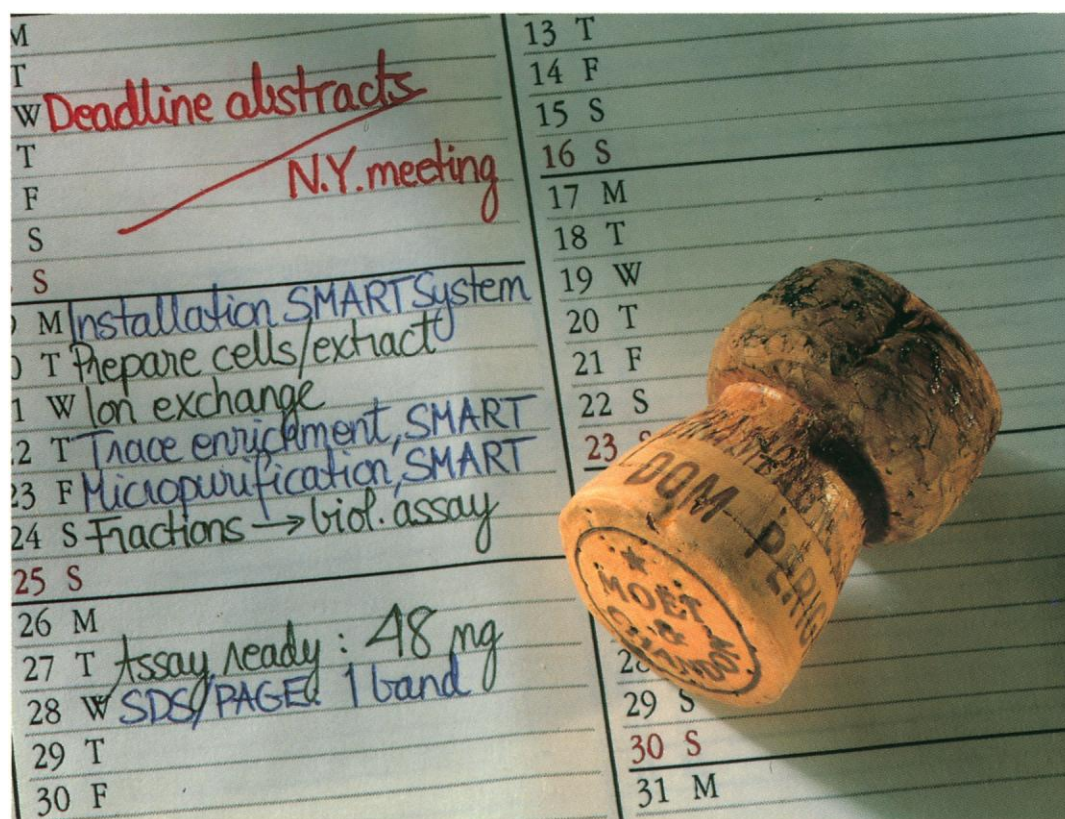


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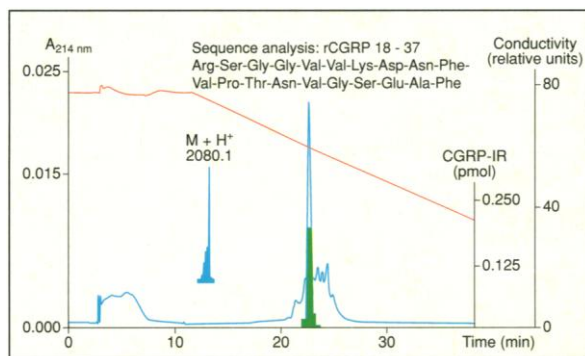
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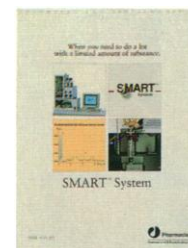
Our definition of success in micropurification has changed since we have gotten SMART System.

Now we know that there ought to be enough left for everyone to join in on the celebration. Ask for the brochure.

SMART System, when you need to do a lot with a little.



Micropurification of CGRP-like activity in 50 ng with 95% activity, together with results from subsequent sequencing and mass spectrometry.



Pharmacia LKB Biotechnology

We help you manage biomolecules

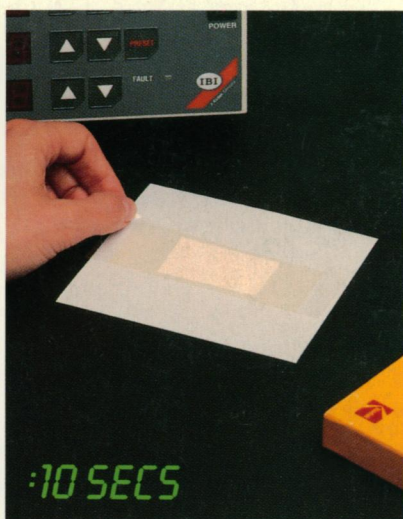
Head office Sweden Tel 46 (0)18 16 30 00 Australia Tel 61 (0)2 888 36 22 Austria Tel (0222) 68 66 25 0 Belgium Tel (02) 242 4660 Brazil Tel 011 288 9122 Canada Tel (514) 457 6661 Denmark Tel 42 26 52 00 Federal Republic of Germany Tel 49 (0)761 490 30 Finland Tel (90) 5021 077 France Tel 1-30 64 34 00 Great Britain Tel (0908) 661101 Holland Tel 03480 77911 India Tel (0812) 269631 Italy Tel 02 273221 Japan Tel 03-492-9481 Norway Tel (02) 54 90 95 People's Republic of China Tel 852 814 8421 Tel 861 256 5603 Republic of Korea Tel 02 5110801 Spain Tel 34 (9)3-675 44 11 Sweden Tel 08 623 85 00 Switzerland Tel (01) 821 18 16 United States Tel (201) 457 8000 Eastern Europe Tel 43 222 982 1607 Far East Tel 852 814 8421 Middle East Tel 30 (0)1 962-7396 Other countries Tel 46 (0)8 799 80 00 (30 06) 1149

Circle No. 97 on Readers' Service Card

Now ultra-sensitive detection of Western Blots takes less than a minute.



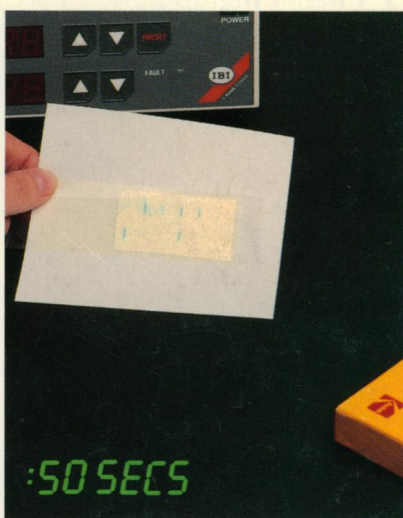
Western hybridized with peroxidase linked antibody.



Overlay web under ordinary room light.



Develop image at lab bench.



Final record.

IBI introduces Enzygraphic™ Web.* A revolutionary new detection method without radioactivity.

It's a breakthrough! With new Enzygraphic Web, you just process your Western in the usual manner using peroxidase linked antibody as your secondary probe to localize your target protein.

Then overlay Enzygraphic Web on your Western under ordinary room light for detection and amplification of your target protein in a single step.

The target band rapidly appears on the web by electron transfer via peroxidase linked probe to the unique web detection system. Result: you get ultra-sensitive detection of Westerns in less than a minute without radioactive probes.

Ultra-Sensitive:

- More sensitive than radioactive methods using ^{125}I labeled probes.
- More sensitive than existing colorimetric methods using peroxidase or alkaline phosphatase linked probes.

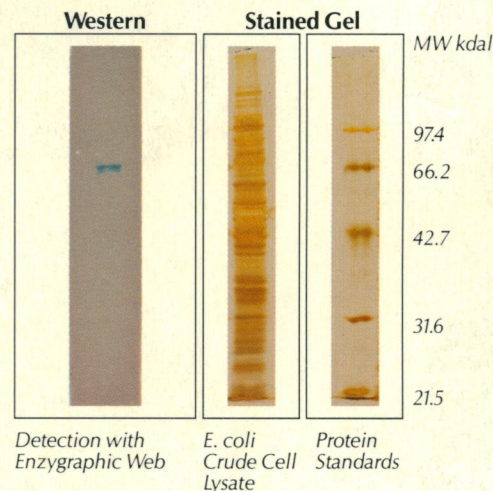
Ultra-Fast:

- Image development time is reduced from hours to less than a minute.
- Preparation of alkaline phosphatase or peroxidase substrates is eliminated.
- Detection time is much less than with ^{125}I labeled probes.

Ultra-Safe:

- Use of radioactive probes is eliminated.

Enzygraphic Web is available in high sensitivity or rapid screening versions in 15-count boxes of 4" x 5" sheets. Order today from our exclusive distributor, VWR Scientific. Or call IBI Technical Services at (800) 243-2555 for more information.



Detection by Enzygraphic Web of fusion protein expressed by the IBI FLAG™ vector.



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