

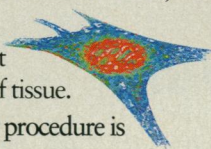
mRNA purified from a single cell using QuickPrep™ mRNA Purification Kit, and subsequently converted into cDNA and amplified by PCR† to yield a product ca. 550 bp long (lower lane); molecular sizing markers (upper lane).

Purify mRNA Directly from Cells in One Hour – Even from A Single Cell!



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† PCR (polymerase chain reaction) is covered by U.S. Patents issued to Cetus Corporation. A license for the use of PCR for research and testing purposes may be obtained by purchase of Perkin-Elmer Cetus GeneAmp™ PCR Reagent Kits. Nothing in this advertisement should be construed as an authorization or implicit license to practice PCR under any patents held by Cetus Corporation.

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BioMarker Low is a double-stranded DNA electrophoresis marker designed to provide fully resolved bands without ambiguity or comigration. Bands are exactly 50, 100, 200, 300, 400, 500, 700, and 1000 bp, stain equally by ethidium bromide, and contain 50 ng per band. BioMarker permits the precise determination of product size and estimation of product yield. BioVentures. Circle 448.

Sensitive Transducers for Physiology Studies

The low force ranges of the FORT 10 and FORT 2—10 g and 2 g, respectively—make them especially suited for physiology studies involving muscle tissue. Rigid lever force transducers, FORT 10 and FORT 2 trans-



form applied force into a proportional voltage. They make use of balanced strain gauges to produce linear output voltage versus applied force input with very little deflection. The transducers can be used with most data acquisition and recording instruments. World Precision Instruments. Circle 449.

Geometric Graphics and Volume Rendering

VoxelView/ULTRA is an interactive volume rendering software system that gives users the option to embed traditional geometric graphics (composed of lines or polygonal surfaces) in a volume of three-di-

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.

mensional data. Previously, geometric graphics and volume rendering have been two divergent methods for visualization. The program is available for all configurations of Silicon Graphics' IRIS/4D VGX POWERVISION supercomputers. Vital Images. Circle 450.

Cryopreservation System

The CPS100 Cryopreservation System is a mechanically refrigerated, user-programmable unit designed to increase the viability of stored cell and tissue samples. Its controlled-rate freezing method without the use of liquid nitrogen helps to minimize the size and quantity of ice crystals formed in the frozen samples. The CPS100 provides step-by-step operator guidance with a user-friendly three-button control panel. Savant Instruments. Circle 451.

Dayglo Microcentrifuge Tubes

Dayglo 1.5-ml microcentrifuge tubes are available in fluorescent colors—hot pink, neon orange, lime green, bright yellow, violet, blue, and assorted. The distinct colors make it easy to distinguish samples. The tubes can withstand temperatures from -100°C to boiling. Midwest Scientific. Circle 452.

Custom DNA Probes

Alk-Phos Oligos are custom-made DNA probes based on a patent-pending method. They can be used in Northern (RNA) blotting, Southern (DNA) blotting, slot blots of polymerase chain reactions, and many other applications. Visualization of as little as 10^5 copies of target sequence is possible. The probes can be used with either colorimetric or chemiluminescent methods. Research Genetics. Circle 453.

Conservation Biology Software

RAMAS/space is a software package for building spatially structured population models for species that exist in multiple populations (metapopulations) in nature; for example, threatened species in fragmented and patchy habitats. It incorporates the spatial aspects of metapopulation dynamics, such as the configuration of patches, migration and recolonization between patches, and similarity of environmental patterns ex-

perienced by the populations. RAMAS/space simulates the dynamics and estimates the extinction risk not just for one population, but for the entire species. It can also be used to design nature reserves or evaluate wildlife management practices. It requires an IBM PC, XT, AT, PS/2, or compatible; DOS 2.0 or higher; 340K random access memory; and CGA, EGA, VGA, or Hercules monographics. Applied Biomathematics. Circle 454.

Plotting Software Updated

Version 3 of the GRAPH program for plotting scientific and engineering data has been released. A variety of curves can be plotted, including interpolating or least squares splines and polynomials. New features include extended memory, multiple y-axis plotting, greater ability to import and export data, and enhanced statistics capability. MicroMath Scientific Software. Circle 455.

Literature

The *Brownlee HPLC Columns Catalog* features analytical, preparative, and guard cartridges and analytical and microbore columns. The ten-page booklet includes a general column selection guide and application selection guide for biological separations. Applied Biosystems. Circle 456.

Guide to Bacterial Transformation details 13 varieties of high-performance frozen competent cell hosts and introduces a new, efficient transformation method: electroschock transformation. GIBCO BRL. Circle 457.

The *ATCC/NIH Respository of Human and Mouse DNA Probes and Libraries* has been updated. Since publication of the 1990 catalog, more than 200 new human and mouse DNA probes have been added to the repository. American Type Culture Collection. Circle 458.

Research Reagents is a 1991 catalog that covers 1000 monoclonal and polyclonal antibodies, purified serum proteins, and related immunochemical products. The catalog includes guidelines for selecting, storing, and using the products. Cappel Research Reagents, Organon Teknika. Circle 459.

Model 540 Gas Chromatograph is a four-page color brochure that describes this microprocessor-controlled instrument. Tremetrics. Circle 460.

Protector Laboratory Fume Hoods is a 28-page catalog that includes cutaway illustrations of key features and benefits, specifications, dimensional data, and accessory information. Labconco Corporation. Circle 461.

“The biggest problem with confocal microscopy is not that you need to hold a wrench to get the best results. ***It's the expense.***”

The Scientist, July 23, 1990

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*Brackenhoff, G.J. and Visscher, K. (July, 1990). *Novel Confocal Imaging and Visualization Techniques*. Paper presented at Micro 90, London, England.

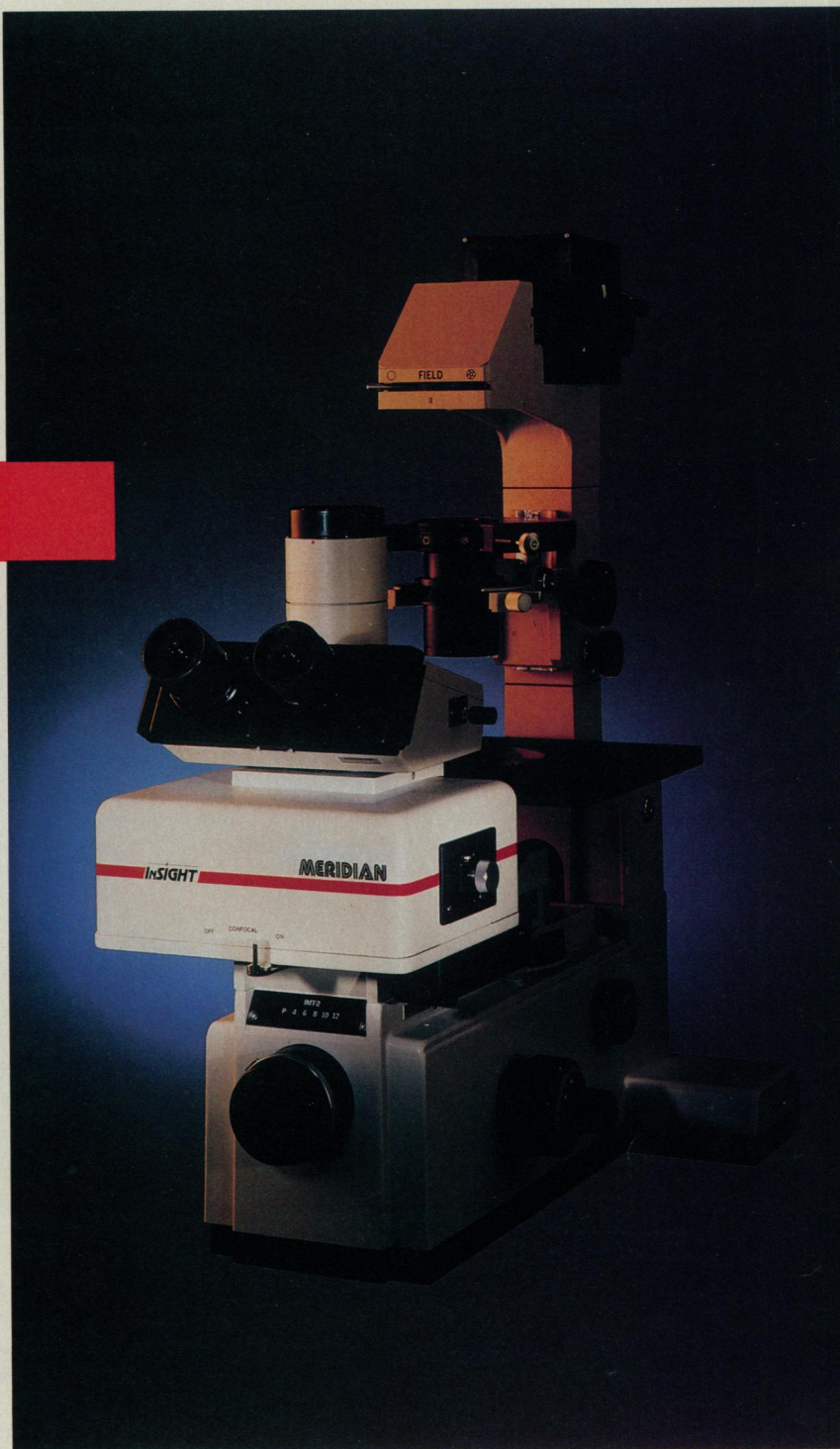
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Personnel Placement

LINE CLASSIFIED ADVERTISEMENTS

DEADLINES: Ads are due by Thursday, 10 a.m., 2 weeks prior to the issue date. *Science* publishes each Friday, except the last Friday of the year. Advertisements must be submitted in writing.

HOW TO SUBMIT A CLASSIFIED AD: Prepare double-spaced typewritten ad copy on a separate sheet. Do not include any abbreviations. *Science* will edit and typeset ads according to *Science* guidelines. Deadline for applications stated in ad must be at least 2 weeks after date of publication. Also include a cover sheet which gives name and phone number of contact person, desired date of publication, and billing information, including any special invoicing requests. Mail or FAX materials to:

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

CLASSIFICATIONS: *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.

HOW TO CALCULATE RATE FOR CLASSIFIED AD: Ads are \$41 per line with a \$410 minimum. One line equals 52 characters and spaces; centered headings equal 32 characters and spaces.

To ESTIMATE ad cost, count total number of 52 character lines and multiply by \$41 to find approximate cost of ad per week. Each line of centered heading counts as one line. Also count one line for white space between headline and first line of text; all partial lines are also counted as full lines (including all centered reply information).

Remember, this is a rough estimate only. Allow for variation between estimated typewritten lines and ads when actually typeset for magazine. Therefore, purchase orders must allow additional funds for 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 made in U.S. dollars by checks drawn on U.S. banks is required on all foreign ads.

CREDIT CARDS: *Science* accepts MasterCard and VISA. Both personal and corporate cards may be used. Prepayment does not apply to credit cards.

BOXES AND LOGOS: Any line classified ad can be boxed and/or published with logo to increase its visibility on page. Since the box takes up additional space, one line now equals 48 characters and spaces; two additional lines will be added to allow for top and bottom rules. Logos are billed according to the number of lines needed to fit logo in space.

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

DISPLAY PERSONNEL ADVERTISEMENTS

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

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

CONDITIONS: Personnel advertising is accepted only with the understanding that the advertisers do not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. *Science* reserves the right, at its discretion, to decline to publish advertisements submitted to it and to decline classifications which it considers misleading.

POSITIONS OPEN

ASSISTANT PROFESSOR DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

Applications are invited for a tenure-track position at the assistant professor level. Applicants should have two or more years of postdoctoral experience and should have the potential for establishing an independent research program. Although all areas of research will be considered, studies utilizing molecular biology are favored. Interest and excellence in teaching and research in biochemistry are expected. The Medical Center includes the Schools of Dentistry, Medicine, Nursing and Graduate Studies. The department has a biotechnology support unit. Laboratories are located with other departmental faculty in the Medical Center's Dental School Complex. Interested individuals should send curriculum vitae with bibliography, short (three-page) summary of planned research, and the names and addresses of three references to the following: **Robert Roskoski, Jr., Head, Department of Biochemistry and Molecular Biology, Louisiana State University Medical Center (LSUMC), 1100 Florida Avenue, New Orleans, LA 70119-2799.** LSUMC is an Equal Employment Opportunity/Affirmative Action Employer.

MOLECULAR BIOLOGIST/EMBRYOLOGIST

The Department of Comparative Medicine, Tufts University School of Veterinary Medicine, has an immediate opening for an **ASSISTANT PROFESSOR** to join our experimental biotechnology research program on the Grafton campus. The position requires both veterinary and Ph.D. degrees. The individual selected must have a strong background in the reproduction of domestic animals with at least 2 years of postdoctoral training. Applicants with established expertise in the molecular biology of spermatogenesis and early embryonic development will be given preference. Advanced technical experience in molecular biology and in vitro culture techniques are essential. Responsibilities will also include participation in the reproductive endocrinology course taught to veterinary students. Salary and benefits are competitive. Applications will be received until 1 August 1991. Applications should include curriculum vitae, a brief statement of research goals, and three letters of reference sent to:

Dr. Carol Reinisch, Chairperson
Department of Comparative Medicine
136 Harrison Avenue
Boston, MA 02111

Tufts University is an Equal Opportunity/Affirmative Action Employer.

BIOCHEMISTRY/MOLECULAR BIOLOGY. The Departments of Biology and Chemistry at Jackson State University invite applications for an **ASSISTANT PROFESSOR**, starting fall 1991. The position is non-tenured, but may be converted later to tenure track. The duties include teaching at the undergraduate and graduate levels, and to perform research in molecular biology. Send curriculum vitae, transcripts, three letters of recommendation, and a summary of research plans by 31 July 1991 to: **Dr. Arthur Jones, Head, Department of Biology, Jackson State University, Jackson, MS 39217.**

ASSISTANT PROFESSOR BIOLOGY/ENVIRONMENTAL BIOLOGY

New Mexico Institute of Mining and Technology, Department of Biology invites applications for a tenure-track position. Primary teaching responsibilities will be an introductory biology course for majors, introductory zoology, and upper-division courses in the area of environmental biology (e.g., ecology, limnology). The successful applicant will have a Ph.D. in biology, zoology, or a related field and will be expected to develop, fund, and maintain an active research program in environmental biology and to supervise graduate students. Preference will be given to applicants with postdoctoral experience and one or more years of college-level teaching experience. Salary will be commensurate with experience and qualifications. Starting date: January or later up to August 1992. Applications will be reviewed beginning 1 October 1991. Send curriculum vitae, college transcripts, statement of research and teaching interests, and four letters of recommendation to: **New Mexico Institute of Mining and Technology, Human Resources, Wells Hall Box C-069, Socorro, NM 87801.**

Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

DEPARTMENT OF MICROBIOLOGY UNIVERSITY OF SASKATCHEWAN

Applications are invited from research scientists for a tenure-track **ASSISTANT PROFESSOR** position in the Department of Microbiology at the College of Medicine, University of Saskatchewan, Saskatoon. Applicants should have a Ph.D. or M.D. degree, at least 2 years of postdoctoral experience and an interest in developing an independent research program in a broadly based academic environment. The department has 13 faculty, including members of the Clinical Microbiology Department in the Royal University Hospital. Currently, 16 students are enrolled in M.Sc. and Ph.D. graduate degree programs in the department. Research interests in the department include diverse aspects of both basic and clinical microbiology. Collaboration with existing research programs in the department will be strongly encouraged.

An application letter together with curriculum vitae, names of three references and a statement of research interests should be sent to: **Louis F. Qualtiere, Acting Head, Department of Microbiology, Health Sciences Building, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0 Canada** by 30 October 1991.

The University of Saskatchewan is committed to the principles of Employment Equity. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents.

ANATOMY AND PHYSIOLOGY KANSAS STATE UNIVERSITY COLLEGE OF VETERINARY MEDICINE

Applications are invited from veterinary anatomists at the **ASSISTANT PROFESSOR** level who can participate in a team-taught veterinary gross anatomy course. It is expected that the successful candidate will hold both the D.V.M. and Ph.D. degrees and will have an established research program in neurobiology, exercise physiology, or molecular biology. Preference will be given to individuals with experience using contemporary ultrastructural and quantitative morphometric research techniques.

Applications should include a cover letter, curriculum vitae, statement of research and teaching interests, three letters of recommendation, and reprints of three representative publications. The earliest starting date is 15 August 1991. However, applications will be received until the position is filled.

Send applications to:

Dr. Jon D. Dunn, Ph.D.
Professor and Department Head
Department of Anatomy and Physiology
VMS 228
College of Veterinary Medicine
Kansas State University
Manhattan, KS 66506

Kansas State University is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSISTANT PROFESSOR. Training in molecular biology of renal-specific protein. Must have Ph.D. and experience in techniques of molecular biology. Applicant should be capable of developing a funded research program. Direct inquiries with curriculum vitae to: **Dr. Frederic L. Coe, Director, Nephrology, The University of Chicago, 5841 South Maryland Avenue, Box 28, Chicago, IL 60637.** The University of Chicago is an Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSISTANT PROFESSOR. The Gynecologic Oncology Section of the Department of Obstetrics and Gynecology at the University of Oklahoma (OU) Health Sciences Center is seeking applicants for an assistant professor of research. Has potential for upgrade to tenure-track appointment. Requires Ph.D. in molecular biology. Postdoctoral research experience in molecular biology, tumor viruses, or oncogenes is desired. Technician and laboratory support available. Salary: \$30,000 to \$35,000, depending upon qualifications. Send curriculum vitae and three letters of reference to: **Joan L. Walker, M.D., Department of Obstetrics/Gynecology, OU Health Sciences Center, P.O. Box 26901, Oklahoma City, OK 73190.** Goal is to hire by 1 September 1991, but curriculum vitae accepted until filled. *The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR, TOXICOLOGY. Tenure track. Ph.D. in toxicology, pharmacology, or related discipline and 2 years of postdoctoral training required. Research expertise in renal, reproductive, immuno, neuro, or general biochemical toxicology preferred. Teach undergraduate and graduate courses and develop externally funded research program. Application review begins on 1 September 1991. Send curriculum vitae, names of three references, and summary of research plan to: **Dr. Zahir Shaikh, Search Chair, Assistant Professor Position, The University of Rhode Island, P.O. Box G, Kingston, RI 02881. An Affirmative Action/Equal Opportunity Employer.**

ASSISTANT PROFESSOR OF PATHOLOGY

Seeking M.D. or Ph.D. in basic sciences with 2 to 5 years of postdoctoral experience in molecular pathology to conduct basic research in special areas of molecular pathology. Should be capable of collaborative and/or independent research support. Duties to include teaching responsibilities. Send curriculum vitae and three letters of reference to: **Search Committee, Department of Pathology, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9072.**

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RESEARCH ASSISTANT PROFESSOR PHARMACOLOGY/TOXICOLOGY

Applications are invited for a nontenure-track position at the research assistant professor level. Must be a U.S. citizen or have the legal right to work in the United States. Minimum qualifications include: a Ph.D. in pharmacology/toxicology or biochemistry with 2 to 3 years of postdoctoral experience. Competitive candidates will have strong backgrounds in biocompatibility testing. Experience in chromatographic techniques, enzyme assays, genetic and/or immunologic testing methods are also needed. Responsibilities include research in 5-year NIH grant and development of research program in biocompatibility. Teaching in undergraduate pharmacology courses is expected. Send curriculum vitae, statement of research interests, recent publications and the names of three references by 30 September 1991 to: **David M. Yourtee, Ph.D., Director of Toxicore, Chairman, Search Committee, Division of Pharmacology, University of Missouri-Kansas City, 2411 Holmes Street, M5-C04, Kansas City, MO 64108. The University of Missouri-Kansas City is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSISTANT PROFESSOR IN MOLECULAR GENETICS

A position is open for a research assistant professor to be associated with an active research program investigating gene regulation. The individual must have skills in studying gene regulation in a variety of systems and have demonstrated creativity in research endeavors and have the ability to help put together competitive research grants. Résumés should be sent to: **Jerry B. Lingrel, Ph.D., Professor and Chair, Molecular Genetics, Biochemistry, and Microbiology, University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, OH 45267-0524.**

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

RESEARCH ASSOCIATE OR ASSISTANT PROFESSOR IN TUMOR CELL BIOLOGY HARVARD MEDICAL SCHOOL JOINT CENTER FOR RADIATION THERAPY

Position available for individual with strong background in cell biology including expertise in molecular biology techniques to join a multidisciplinary team investigating the dynamic role of the tumor microenvironment as it relates to therapeutic outcome and tumor progression. The applicant should demonstrate the ability to develop an independent research program and to work collaboratively with basic scientists and research physicians at the Joint Center, Dana-Farber Cancer Institute and other affiliated institutions. The appointment and resources will depend on the qualifications. Please submit curriculum vitae, description of career goals, relevant publications, and names of three references to: **C. N. Coleman, M.D., Chairman, Joint Center for Radiation Therapy, 50 Binney Street, Boston, MA 02115.**

POSITIONS OPEN

ASSISTANT PROFESSOR: PLANT SYSTEMATICS/EVOLUTION. The Botany Department, University of Georgia, invites applications for this 9-month, tenure-track position, beginning 1 September 1992. Candidates should possess demonstrated research capabilities in molecular systematics or methods and principles in phylogeny reconstruction. The successful candidate is expected to maintain an active research program with strong participation in undergraduate and graduate training and teaching in plant systematics and related courses in his/her specialty. Send curriculum vitae, reprints, statements of research and teaching interests, and four letters of reference directly to: **Dr. David E. Giannasi, Department of Botany, University of Georgia, Athens, GA 30602. Closing date is 15 December 1991. An Equal Opportunity/Affirmative Action Institution.**

UNIVERSITY OF CALIFORNIA LOS ANGELES (UCLA) ADJUNCT ASSISTANT PROFESSOR

The UCLA Tissue Typing Laboratory has an immediate opening for an adjunct assistant professor. Applicants must possess a Ph.D. in biostatistics with research experience in HLA serology and genetics and the analysis of renal transplantation data as demonstrated by publications in peer-reviewed journals. This is not a tenure-track position. Salary range is \$41,600 to \$52,000. Send curriculum vitae, statement of research interests and names of three references to: **Dr. Paul Terasaki, UCLA Tissue Typing Laboratory, 950 Veteran Avenue, Los Angeles, CA 90024. UCLA is an Equal Opportunity/Affirmative Action Employer.**

The Department of Psychiatry at Washington University School of Medicine is seeking excellent neuroscientists for appointment at the tenure-track levels of **ASSISTANT AND ASSOCIATE PROFESSOR.** The department has a rich tradition of research excellence, emphasizing a rigorous approach to clinical and basic science research. Current areas of interest in our neuroscience program include studies of receptor mechanisms, neuroendocrinology, the pharmacology and physiology of abused drugs, neurodevelopment and mechanisms of neurodegeneration. We are interested in recruiting neuroscientists who would complement and extend these areas, but would also encourage applicants in all areas of neurobiology, ranging from molecular to systems neuroscience. Neurobiologists currently working in the department are integral members of the Washington University neuroscience community and hold joint appointments in pre-clinical departments giving them access to students and all common university resources. Please send résumé and three letters of reference to: **Theodore J. Cicero, Ph.D., Director of Research Development, Washington University School of Medicine, 4940 Audubon Avenue, Box 8134, St. Louis, MO 63110. Washington University School of Medicine is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.**

PROFESSOR OF PHYSICAL OCEANOGRAPHY

The Department of the Scripps Institution of Oceanography at the University of California, San Diego (UCSD), invites applications for **ASSISTANT, ASSOCIATE, OR FULL PROFESSOR** (tenure-track or tenured positions) in the broad field of physics and dynamics of the oceans and the atmosphere. Emphasis is on using theory, modeling, and observations (in situ and/or remotely sensed) to study physical processes in the ocean and to study physical processes in the atmosphere with particular (although not exclusive) attention to interactions between oceanic and atmospheric processes. Positions at all levels will involve graduate teaching and the supervision of Ph.D. candidates as well as individual research. Successful candidates at the associate or full professorial level must have demonstrated outstanding accomplishment in research as well as in research supervision and teaching, successful assistant-level candidates must show high potential for such accomplishment. At the time of appointment, successful candidates must possess a Ph.D. degree in an appropriate science. Rank and salary will be commensurate with qualifications and experience in accord with University of California scales. Send letter of application, including curriculum vitae and names of three references, to: **Chair, Physical Oceanography Search, Scripps Graduate Department 0208, UCSD, La Jolla, CA 92093-0208. Applications received after 31 October 1991 may not receive full consideration. The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR. The Department of Pharmacology at the University of South Florida College of Medicine (USFCOM) invites applications for tenure-track faculty positions at the assistant/associate professor level, depending on experience. Applicants must have a Ph.D. or equivalent in pharmacology, neuroscience, or a related discipline with a minimum of 3 years postdoctoral experience. Individuals are expected to establish independent research programs, obtain extramural grant support, and contribute to teaching medical and graduate students. Under new leadership, the department is seeking outstanding scientists working within the broad area of neuropharmacology, with an emphasis on individuals with a strong background in molecular neurobiology and an interest in aging. Applicants should submit curriculum vitae, statement of research interests and future plans, and the names of three references to: **Lynn Wecker, Ph.D., Professor and Chair, Department of Pharmacology, MDC Box 9, USFCOM, 12901 Bruce B. Downs Boulevard, Tampa, FL 33612-4799. Applications must be received by 30 September 1991. The University is an Affirmative Action/Equal Opportunity Employer.**

The Department of Anesthesiology and Critical Care Medicine at the University of Pittsburgh is seeking additional full-time research faculty, for primary appointment at either the **ASSISTANT OR ASSOCIATE PROFESSOR** level, with opportunity for secondary appointment in an allied basic science department. Successful candidates will have a doctoral degree and some postdoctoral experience with a cellular or molecular orientation toward: the pharmacology of anesthetics, sedatives, analgesics, or vasoactive compounds; mechanisms of tissue injury or protection, especially after ischemia and reperfusion; immune response mechanisms, particularly those relating to allograft rejection; metabolism and regulation in the liver; or, regulation of blood coagulation.

Substantial new, designed-to-suit laboratory space is available, as are generous start-up funds. Curriculum vitae and names of three references should be sent to: **Dr. Leonard Firestone, Vice-Chairman for Research, Department of Anesthesiology and Critical Care Medicine, University of Pittsburgh, 1385 Scaife Hall, Pittsburgh, PA 15261. The University of Pittsburgh is an Equal Opportunity Employer.**

ASSISTANT OR ASSOCIATE PROFESSOR

The Departments of Physiology/Biophysics and Medicine at the University of Arkansas for Medical Sciences and the Little Rock Veterans Administration Hospital invite applications for a tenure-track position as assistant or associate professor. Preference will be given to individuals with research interests in cell to cell interaction and signal transduction. The candidate will be responsible for the supervision of postdoctoral fellows and technicians and collaborate with biomedical research scientists in the Division of Gerontology who have substantial extramural grant support. Generous space and start-up funds are available. The successful applicant is expected to establish an independent, extramurally funded research program, and to participate in the training of medical and graduate students. The position will be filled as soon as a suitable candidate is identified. Send curriculum vitae, statement of research interests, and the names of three references by 15 August 1991 to: **Dr. Phillip L. Rayford, Professor and Chairman, Department of Physiology/Biophysics, 4301 West Markham, Slot 505, Little Rock, AR 72205. An Equal Opportunity Employer. Minorities and women are encouraged to apply.**

RESEARCH AND DEVELOPMENT PROGRAM MANAGERS

The U.S. Department of Agriculture, Forest Service, Pacific Northwest (PNW) Research Station, is seeking applicants for five program manager positions. Salary range: \$44,348 to \$80,138. The research station does R&D on natural resources problems and issues.

If interested in receiving vacancy announcements, contact:

**Sally Sullivan
Deputy Station Director
PNW Research Station
P.O. Box 3890
Portland, OR 97208
Telephone: 503-326-5644**

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POSITIONS OPEN

COLUMBIA UNIVERSITY DEPARTMENT OF OPHTHALMOLOGY TENURE-TRACK ASSISTANT/ASSOCIATE PROFESSOR

The department is seeking an individual whose primary research interest is in the area of molecular genetics. The successful candidate will have a strong background in molecular biology and gene expression in mammalian cells. The candidate is expected to develop an independent program related to some aspect of the molecular genetics of the eye. An opportunity for joint appointment with a basic science department is available. Evidence should be provided of significant accomplishment and ability to establish an independent, nationally recognized research program. Send, by 1 September 1991, curriculum vitae, list of publications, names and addresses of three references, and a one-page summary of research interests to: **Chair, Search Committee, Department of Ophthalmology, College of Physicians and Surgeons of Columbia University, 630 West 168th Street, New York, NY 10032.** *Columbia University takes Affirmative Action to ensure Equal Opportunity.*

MICROBIOLOGIST/VIROLOGIST

The West Virginia School of Osteopathic Medicine (WVSOM) invites applications for a tenure-track position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Qualified applicants must have a Ph.D. in virology or microbiology with virology specialty. Candidates with teaching experience are preferred. Research opportunities are available and encouraged. Teaching responsibilities include team-taught general microbiology plus general and medical virology to medical students.

Applicants should submit a letter describing teaching and research experience and interests, curriculum vitae, and three current letters of reference to: **Chairperson, Microbiology Search Committee, c/o Personnel Office, West Virginia School of Osteopathic Medicine, 400 North Lee Street, Lewisburg, WV 24901.** Applications will be accepted until the position is filled, with an anticipated starting date of September 1991.

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

ASSISTANT/ASSOCIATE PROFESSOR CHILDREN'S HOSPITAL OF PHILADELPHIA UNIVERSITY OF PENNSYLVANIA SCHOOL OF MEDICINE

The Division of Pulmonary Medicine is seeking applicants for the position of assistant or associate professor to complement existing programmatic strengths in cellular and molecular mechanisms regulating contractility, receptor gene expression, and signal transduction in airway smooth muscle. Research interests should involve molecular, cellular and/or genetic aspects of contractile protein expression and function. Candidates must provide evidence of significant research accomplishment and the ability to establish a successful research program. Ample support will be provided for start-up and early development. Eligible candidates having an M.D. and/or Ph.D. degree should submit their curriculum vitae and three letters of reference to: **Michael M. Grunstein, M.D., Ph.D., Chair, Search Committee, Division of Pulmonary Medicine, Children's Hospital of Philadelphia, University of Pennsylvania School of Medicine, 34th Street and Civic Center, Philadelphia, PA 19104.** *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.*

DIRECTOR OF MOLECULAR PATHOLOGY. The Department of Pathology, Emory University School of Medicine, is seeking an M.D. or Ph.D. to run the molecular pathology laboratory at Grady Memorial Hospital. The successful candidate will have training and at least 3 years of experience in nucleic acid-based diagnostic techniques including blotting and amplification technology. Demonstrated experience in applications of these techniques to diagnostic laboratory medicine as well as in effective collaboration and communication with clinicians and housestaff is expected. The candidate must show evidence of accomplishment in a basic or clinical research program. Closing date for receipt of applications is 15 August 1991. Applicants should submit recent curriculum vitae and the names of three references to: **Kenneth W. Sell, M.D., Ph.D., Professor and Chairman, Department of Pathology, 703 WMB, Emory University, Atlanta, GA 30322.** *Emory University is an Affirmative Action/Equal Opportunity Employer.*

THE UNIVERSITY OF ADELAIDE — SOUTH AUSTRALIA

Applications are invited from both women and men for the following position:

FOUNDATION PROFESSOR OF VITICULTURE (Tenurable)

(Ref: 7833) in the **DEPARTMENT OF HORTICULTURE, VITICULTURE AND OENOLOGY, FACULTY OF AGRICULTURAL AND NATURAL RESOURCE SCIENCES.** The Department is one of eight Departments in the Faculty of Agricultural and Natural Resource Sciences, newly created following the merger of Roseworthy Agricultural College with The University of Adelaide on 1 January 1991.

The Department has fifteen academic staff and ten support staff.

The position will be located at the Waite Campus of The University of Adelaide. The Waite Campus has a delightful setting and is situated about seven kilometres from the city centre. General facilities are excellent. Also on the campus are the CSIRO Divisions of Horticulture, Soils and Water Resources, as well as the Australian Wine Research Institute.

The Department has a major responsibility for the training of personnel and for conducting research for the benefit of the Australian horticultural, grape and wine industries. It has close links with The Australian Wine Research Institute, the CSIRO Division of Horticulture and the Australian Centre of Viticulture and Oenology.

Applications are invited from persons who have distinction in one or more areas of viticulture and/or in a discipline that underpins viticulture — this may include plant physiology, plant biochemistry and grapevine genetics. The appointee will possess a proven research record, successful teaching experience at the tertiary level and the ability to develop academic programs at both the undergraduate and the graduate level. The appointee will be expected to provide academic leadership in all aspects of the Department's activities and develop and strengthen relationships with industry, government and research institutions.

The position is available from January 1992.

It is University policy to encourage women to apply for consideration for appointment to tenurable academic appointments. Holders of full-time tenured or tenurable academic appointments have the opportunity to take leave without pay on a half-time basis for a specific period of up to ten years when this is necessary for the care of children.

Further information concerning the Department and the duties of the position may be obtained from Dr Andrew Markides, Head of the Department of Horticulture, Viticulture and Oenology, telephone (61 85) 24 8057, Fax (61 85) 24 8297, or Professor Harold Woolhouse, Dean, Faculty of Agricultural and Natural Resource Sciences, telephone (61 8) 372 2201, Fax (61 8) 338 2744.

INFORMATION about the general conditions of appointment and selection criteria may be obtained from the Director, Personnel Services at the University.

The current remuneration of a Professor is AUS\$67,812 per annum. Subject to consent by the University, Professors may undertake a limited amount of consultative work.

APPLICATIONS, IN DUPLICATE, quoting reference number 7833 and giving full personal particulars (including whether candidates hold Australian permanent residency status), details of academic qualifications and names and addresses of three referees should reach the Director, Personnel Services at the University of Adelaide, GPO Box 498, Adelaide, South Australia, 5001, Telex UNIVAD AA 89141. Facsimile (61 8) 223 4820 not later than 30 September 1991.

The University reserves the right to make enquiries of any person regarding any candidate's suitability for appointment, not to make an appointment or to appoint by invitation.

THE UNIVERSITY OF ADELAIDE IS AN EQUAL OPPORTUNITY EMPLOYER.

STAFF POSITIONS

DEPARTMENT OF GENE REGULATION

Roche Institute of Molecular Biology

Applications are invited for positions equivalent in rank to Assistant Professor in the newly established Department of Gene Regulation. We are seeking candidates with a research focus ranging from transcriptional regulatory mechanisms to signal transduction pathways; or individuals using viral systems to explore fundamental aspects of gene expression. Interaction with members in the departments of Molecular Oncology and Virology, Cell and Developmental Biology, and Neuroscience is strongly encouraged.

Institute staff enjoy complete academic freedom and independence in the choice and pursuit of research problems. Full funding for research programs, including postdoctoral fellows, is provided by Hoffmann-La Roche. Institute staff can obtain graduate students through a joint program with the Department of Biology at Columbia University. The Institute is located in a suburban setting only 10 miles west of New York City. For consideration, please send curriculum vitae, names of three references and a summary of research interests, to: **Dr. Craig Rosen, Chairman, Department of Gene Regulation, Roche Institute of Molecular Biology, Nutley, New Jersey 07110.** We are an equal opportunity employer.

Roche Institute of Molecular Biology



Hoffmann-La Roche Inc.

STERLING RESEARCH GROUP

PRINCIPAL RESEARCH INVESTIGATOR

The Sterling Research Group currently has an opening for a Principal Research Investigator in its Diagnostic Imaging Group.

The successful candidate will serve primarily as the liaison between Sterling Research Group and the Center for Imaging and Pharmaceutical Research in the Department of Radiology at the Massachusetts General Hospital in coordinating discovery efforts for imaging agents.

Candidates for this position should possess a Ph.D. in life or physical science and 3-5 years' experience beyond the postdoctoral level in discovery of novel imaging agents. Prior pharmaceutical experience is preferred, with practical experience in either MRI or ultrasound. Excellent interpersonal skills are necessary.

The successful candidate will be located at the Center for Imaging and Pharmaceutical Research in Boston. We offer attractive salary and benefits packages along with outstanding career opportunities for personal and professional growth. For confidential consideration, please send curriculum vitae and salary history to: RS-06-91, Sterling Research Group, 81 Columbia Turnpike, Rensselaer, New York 12144. EOE M/F/H/V.



STERLING RESEARCH GROUP

A Division of Sterling Drug Inc.
A Subsidiary of Eastman Kodak Company

REPRODUCTIVE/DEVELOPMENTAL TOXICOLOGIST

SmithKline Beecham, a leader in pharmaceutical research and development, is seeking an experienced scientist to provide leadership and expertise in reproductive toxicology and teratology. The successful candidate will join a multidisciplinary department which conducts preclinical toxicity evaluations of drugs. This includes the conduct of studies designed to meet regulatory requirements as well as investigative and methods development studies both *in vivo* and *in vitro*.

Candidates are required to have a Ph.D. degree in a relevant discipline (Toxicology or Pharmacology, Reproductive or Developmental Biology, Endocrinology) with 1 to 6 years of experience beyond the Ph.D. A proven record of basic research and previous experience in conducting reproductive and developmental toxicology studies is required. Preference will be given to candidates with excellent written and verbal communication skills and supervisory experience.

SmithKline Beecham Pharmaceuticals is located in suburban Philadelphia, Pennsylvania. We offer an excellent compensation and benefits package and an attractive relocation policy as well as a work environment that offers considerable opportunity for personal and professional growth. For confidential consideration, send your C.V. and the names of three references to Helene McConnell, H008, SmithKline Beecham Pharmaceuticals, 709 Swedeland Road, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.



SmithKline Beecham
Pharmaceuticals

MOLECULAR BIOLOGIST/VIROLOGIST Animal Therapeutics

The Upjohn Company, a recognized leader in pharmaceutical research and development, currently has two research positions available in our Therapeutics Group (Viral Vaccines Program) of the Agricultural Division.

POST-DOCTORAL SCIENTIST (Position Code 900659-050) This person will work directly with other scientists and with molecular virologists from our Biotechnology Group in designing and conducting experiments in cloning and expression of viral and cellular genes concerned with disease processes in domestic animals. This work will emphasize the use of bovine herpes virus-1 as a vector for other viral and cellular genes. Experience and knowledge of herpesvirus replication and gene control would be a strong plus. Position requires a highly-motivated individual with a recent Ph.D. in a related discipline. Appointments are for one year renewable for a second year.

RESEARCH ASSOCIATE (Position Code 910429-051) This position will require the application of molecular biological techniques in the development of novel animal vaccines. Applicants should have a BS/MS in biochemistry, molecular biology, or related field and laboratory experience in molecular biology, biochemistry and tissue culture techniques. Duties will include design and construction of recombinant viruses (baculovirus, herpesvirus, poxvirus) and analysis of expression. Strong oral and written communications skills are necessary, along with the ability to work independently as well as cooperatively with project team members.

For these positions, we offer a very competitive salary and benefits package commensurate with experience in addition to a stimulating, multi-disciplinary research environment. In 1990, Upjohn committed over \$400 million to research and development and we are currently increasing our downtown Kalamazoo research facilities by 50%. Qualified candidates are invited to send their curriculum vitae and cover letters to: THE UPJOHN COMPANY, CORP. RECRUITING/ANIMAL THERAPEUTICS, 7000 PORTAGE ROAD, KALAMAZOO, MI 49001 USA. Please refer to one of the above Position Codes in your correspondence. An Equal Opportunity Employer M/F.

Our Commitment to Scientific Excellence Continues...

Upjohn

Chairperson
Department of Pharmacology and Toxicology
School of Basic Health Sciences
Medical College of Virginia
Virginia Commonwealth University

Applications are invited for the position of Professor and Chairperson of the Department of Pharmacology and Toxicology on the health sciences campus of Virginia Commonwealth University. The successful candidate will be expected to provide leadership for a department which currently has over 30 full-time tenure track and collateral faculty, 41 Ph.D. graduate students and 5.8 million dollars of extramural funding. Applicants should have an earned doctorate and achievement meriting tenure as a professor. We seek an individual who is internationally recognized for research in pharmacology and/or toxicology and who has a record of successful procurement of extramural support. Additionally, the candidate must be able to lead and administer the department's graduate and postdoctoral programs and other departmental contributions to education university-wide with emphasis on medicine, dentistry, pharmacy and allied health professions. Experience working in a culturally diverse environment is highly preferred.

Applications, including a complete curriculum vitae and names of three references, should be sent to:

Walter H. Carter, Ph.D.
Chairman of Search Committee
Department of Biostatistics
School of Basic Health Sciences
Virginia Commonwealth University
P O Box 32
Richmond, Virginia 23298-0032

A detailed job description is available upon request. Formal consideration of applications will begin on June 1, 1991. The deadline for receipt of applications is October 1, 1991.

Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

NOMINEE

The NSERC Women's Faculty Award

The Department of Zoology at the University of British Columbia is seeking a qualified female scientist to nominate for a Natural Sciences and Engineering Research Council (NSERC) Women's Faculty Award. The NSERC Women's Faculty Award is tenable for a maximum of 5 years, but there is a strong possibility for a tenure track position. The successful award holder will be appointed at the Assistant Professor level. Applicants must have a doctoral degree (postdoctoral experience preferred) and will be expected to undertake an independent research program in any area of animal biology that strengthens or complements the research activities of the department. The Department of Zoology at UBC has approximately 40 faculty, 40 postdoctoral fellows/research associates, and 150 graduate students involved in a diverse number of research projects at all levels of organization. The successful award holder will have minimal teaching obligations for the duration of the NSERC award. **Deadline for completed applications is September 1, 1991.** However, the search will remain open until a suitable nominee has been selected. Expected date of appointment is July 1, 1992. In accordance with NSERC requirements, this advertisement is directed to female Canadian citizens and permanent residents of Canada. Applicants should send a curriculum vitae, a few representative reprints/preprints, a brief outline of the proposed research activities, and have three letters of reference sent to:



Dr. J.E. Phillips
Head, Department of Zoology
University of British Columbia
6270 University Boulevard
Vancouver, B.C. V6T 1Z4
Telephone: (604) 822-3168 FAX: (604) 822-2416

DIRECTOR OF CLINICAL SERVICES

LABORATORY OF MOLECULAR DIAGNOSTICS

Roswell Park Cancer Institute, an NCI designated Comprehensive Cancer Center, is seeking a Director of Clinical Services for the Laboratory of Molecular Diagnostics. The successful candidate will have a Ph.D., M.D. or M.D./Ph.D. degree and several years of experience in molecular diagnostic techniques. The position will allow time for independent research. The position is a tenure track appointment at the Assistant Professor level. Send curriculum vitae, a statement of research objectives, and the names of three references to:

Dr. Alan Kinniburgh, Director,
Laboratory of Molecular Diagnostics,
Roswell Park Cancer Institute,
Elm and Carlton Streets, Buffalo, N.Y 14263.



Roswell Park is an Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

UNIVERSITY OF TORONTO DEPARTMENTS OF CLINICAL BIOCHEMISTRY AND MEDICINE ASSISTANT PROFESSORS

Applications are invited for three positions at The Toronto Hospital (a 1300-bed Tertiary Referral Hospital affiliated with the University of Toronto).

CLINICAL EPIDEMIOLOGIST/TECHNOLOGY ASSESSMENT: M.D., FRCP (or equivalent) with training in clinical epidemiology to develop an independently funded research program related to the effective use of diagnostic laboratory resources and to participate in general medical practice at The Toronto Hospital.

CLINICAL INVESTIGATOR: M.D., FRCP (or equivalent) specialized in metabolism and endocrinology; training or experience in medical biochemistry is an advantage; to supervise a specialized analytical biochemistry laboratory for clinical investigation and to carry out clinical research through the Clinical Investigation Unit.

CLINICAL GENETICIST: M.D., CCMG, or ABMG eligible/certified to provide consultation and develop research related to adult genetic disease.

Laboratory space, start-up funds, and appointments in the Graduate School will be available.

The University of Toronto encourages both men and women to apply for this position. In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Interested persons should direct enquiries and applications no later than 31 October 1991 to:

Dr. A. D. Baines
Biochemist-in-Chief
Department of Clinical Biochemistry
ES 3-404D, Toronto General Division
200 Elizabeth Street
Toronto, Ontario, M5G 1L5 Canada

DEPUTY COMMISSIONER FOR OPERATIONS

The Food and Drug Administration is recruiting for the senior executive service position of deputy commissioner for operations located in Rockville, Maryland. The deputy commissioner for operations, through subordinate executives, will provide executive direction to several thousand professional and support personnel in major line components of the agency and make major budget and resource decisions affecting these components. Applicants must have knowledge of the Food and Drug Administration and/or the Food, Drug, and Cosmetic Act and its implementing regulations. He/she must be able to show demonstrated experience as a line manager; demonstrated ability to manage change (e.g., change in mission, organization, philosophy, or expansion/downsizing); and the ability to implement Equal Employment and career opportunities for minorities, women, handicapped, and special interest groups.

If you are interested and want to be considered, send an SF-171, Application for Federal Employment, to: Jeylene Wood, Division of Human Resources Management, Food and Drug Administration, Parklawn Building, Room 4B-09, 5600 Fishers Lane, Rockville, MD 20857. If you need more information, you may call Ms. Wood collect on 301-443-1755. Applications will be accepted until 12 August 1991. *An Equal Opportunity Employer.*

CHAIRMAN, DEPARTMENT OF PATHOLOGY UNIVERSITY OF VERMONT COLLEGE OF MEDICINE

The University of Vermont and Medical Center Hospital of Vermont (MCHV) seek a full-time chairman of the Department of Pathology. Applicants must be Board-certified in pathology; have administrative experience, strong leadership skills, and an outstanding record of accomplishment in biomedical research; and be interested in fostering programs for patient services, teaching, and scholarship. MCHV is a tertiary care teaching hospital associated with the University of Vermont, College of Medicine. *The University of Vermont is an Affirmative Action/Equal Opportunity Employer, and women and people from diverse racial, ethnic, and cultural backgrounds are encouraged to apply.* Interested parties should send curriculum vitae to: Kenneth Mann, Chair of Pathology Search Committee, c/o Department of Pathology, Soule Medical Alumni Building, University of Vermont, Burlington, VT 05405. Applications will be accepted until position is filled.

POSITIONS OPEN

CHIEF VETERINARIAN RESEARCH ANIMAL RESOURCE CENTER (RARC)

The University of Wisconsin-Madison seeks D.V.M. to lead veterinarians and staff of RARC to ensure responsible use of animals in research and teaching by faculty, staff, and students campus-wide and to work with IACUC. Candidates must be Board-certified by American College of Laboratory Animal Medicine, have at least 5 years of experience in management of AAALAC-accredited facilities, and be familiar with pertinent regulations. For full consideration, submit a letter of application, curriculum vitae, professional statement, and names, addresses, and telephone numbers of three references by 1 August 1991 to: Dean, Graduate School, Chief Veterinarian Search Committee, University of Wisconsin, 500 Lincoln Drive, Madison, WI 53706. Telephone: 608-262-1044. *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

DIRECTOR, COLORADO AGRICULTURAL EXPERIMENT STATION COLORADO STATE UNIVERSITY

Candidates must have earned doctoral related to Colorado Experiment Station programs, tenurable as professor, excellence in agricultural/related research, recognized leadership/public relations skills, interest in research administration. Familiarity with role/mission of land grant university and support diversity goals. Salary competitive.

Send nominations and applications to: Dr. F. W. Smith, Provost's Office, 108 Administration, Colorado State University, Fort Collins, CO 80523 before 20 August 1991. Include statement of interest; curriculum vitae; names, addresses, and telephones of three references; and one-page statement of vision/philosophy of Experiment Station in modern land-grant setting. *Colorado State is an Equal Opportunity/Affirmative Action Employer.*

VICE CHANCELLOR FOR RESEARCH

The University of California, Los Angeles (UCLA), is searching for a vice chancellor for research.

Responsibilities: will include campus-wide research planning and coordination, to include new research ventures and long-term infrastructure requirements. Leadership and vision in the development of large-scale interdisciplinary research programs and programs concerning technology transfer and mutually supportive relationships between the university and industry. The vice chancellor will also supervise a staff that will identify and help to secure public and private sources of research funding; administration of contracts and grants, human subjects, and animal welfare; and have oversight responsibility for integrity in the research process.

Experience: should include demonstrated leadership in large-scale research administration, a distinguished record of funded scientific research, development of collaborative research venture, and sensitivity to the broad research needs of a major research university. This individual would be expected to qualify for a tenured academic position at UCLA.

Salary: commensurate with qualifications and experience. Closing date: 30 September 1991. Respond to:

Vice Chancellor for Research Search Committee
c/o Ms. Connie Chittick
University of California
Office of Chancellor
405 Hilgard Avenue
Los Angeles, CA 90024-1405

PHYSIOLOGY/PHARMACOLOGY

Nominations and applications are invited for a tenure-accurring **FACULTY POSITION**. Qualifications include Ph.D. in either physiology or pharmacology, postdoctoral experience, strong commitment to teaching, and evidence of productivity in research. Major duties will include teaching in an undergraduate program in biomedical sciences, directing student research, development/continuance of an active fundable research program, and other faculty responsibilities. Application deadline is 30 August 1991 or until filled. Please submit curriculum vitae, brief outline of teaching experience and research plans, and the names and addresses of three references to: Dr. Gesina Longenecker, Chair, Department of Biomedical Sciences, 494 CCCC, University of South Alabama, Mobile, AL 36688. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR OF RESEARCH

Responsibilities: Coordinate and manage the gardens' program of research; edit the gardens' research journal (*Selbyana*); and conduct own research program. Resources include extensive living and preserved plant collections and research library. Qualifications: Leadership skills coupled with a strong interest and experience in tropical botany, doctoral degree, research publications and field experience. Postdoctoral work highly desirable. Salary: Commensurate with experience. To apply: Send curriculum vitae, a summary of present and future research interests and bibliography, with references, to: Search Committee, Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, FL 34236.

CURATOR/SYSTEMATIST

Position for **ASSISTANT CURATOR** of the U.S. National Tick Collection, Institute of Arthropodology and Parasitology (IAP), Georgia Southern University. Candidate must have Ph.D. in a zoological science, training in modern systematic theory and practice, background in taxonomy and systematics of taxa of medically important arthropods (preferably ticks), and experience in computer applications. Duties include curating the National Tick Collection, providing tick identification service, conducting and publishing original research on ticks, and obtaining external grant support. Salary competitive depending upon qualifications. Send letter of application, names of three references, curriculum vitae and official copy of educational transcripts to: J. H. Oliver, Jr., Director, IAP, Georgia Southern University, Landrum Box 8056, Statesboro, GA 30460-8056. Deadline: 1 September 1991. Position available 1 October 1991. *Georgia Southern is an Affirmative Action/Equal Opportunity Institution. The names of applicants and nominees, résumés, and other general nonevaluative information are subject to public inspection under the Georgia Open Records Act.*

ANATOMIST. TWO FACULTY POSITIONS are available to teach clinically oriented gross anatomy and histology or neuroanatomy. Primary responsibilities: not more than 25% time teaching the above disciplines to medical students and at least 75% of time for research. Teaching is of exceptional importance. Salary and academic rank open and commensurate with training, teaching experience, and grant track record. Please send curriculum vitae and publications list, detailing teaching experience, research interests, grant support information, and the names of three references to: Dr. Arnold L. Nagler, Associate Dean, Basic Sciences, New York College of Osteopathic Medicine, Old Westbury, NY 11568. *Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION IN MOLECULAR MEDICINE

The Department of Biochemistry, University of Rochester Medical Center, is seeking applications for the position of **ASSISTANT PROFESSOR**. Applicants should be prepared to conduct active independent research, using molecular techniques to study human disease or related areas. Considerable prior research experience is required. The university provides wide opportunities for collaboration with investigators in clinical and basic science departments, and in the Cancer Center. *This university is an Equal Opportunity Employer.* Send curriculum vitae and letters of recommendation to: Dr. Fred Sherman, Chairman, Department of Biochemistry, University of Rochester, 601 Elmwood Avenue, Rochester, NY 14642.

The University of California, Los Angeles (UCLA), Department of Pathology and Laboratory Medicine, has an open intermediate level **FACULTY POSITION** with responsibilities for teaching and research in aging, with particular emphasis on the immunobiology of aging. Demonstrated excellence in such research and in graduate education is necessary. The individual selected will work collaboratively with the present faculty and fellows in this departmental program. The Department of Pathology and Laboratory Medicine has a formal Ph.D. Program in Experimental Pathology. Please send résumé and correspondence to: George Smith, Professor of Pathology and Laboratory Medicine, UCLA School of Medicine, 13-186 CHS, 10833 LeConte Avenue, Los Angeles, CA 90024-1732. *UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.*

Make A Difference In The Quality of Life

The Hyland Division of Baxter Healthcare, a leader in the area of human plasma-derived protein therapeutics, is undertaking the development of its next generation of therapeutics with the aid of state-of-the-art biotechnology. We seek energetic individuals who can contribute effectively in a multi-disciplinary R&D environment in the following areas:

SCIENTIST IV Protein Characterization (Dept. LD/C-4)

We seek an individual with demonstrated expertise in the characterization of proteins, with focus on structural and functional studies. Ability in the investigation of post-translational modifications is expected. Applicants must be thoroughly familiar with all aspects of current protein chemistry and biochemistry relating to composition, structure, conformation and function. Additional experience in protein engineering, modeling and rational design an asset. Ability to interact in a team-oriented R&D environment is essential. The successful candidate will make key recommendations concerning research directions of the Group and develop novel approaches which coincide with overall strategic R&D objectives. A PhD with relevant industrial or postdoctoral experience is required.

SCIENTIST IV Efficacy (Dept. LD/E-4)

The successful candidate will perform literature review, model evaluation, and development and adaptation of bacterial assays in support of Hyland research projects at various stages of product development. Must independently design, perform and evaluate relevant *in vivo* and *in vitro* investigations of the mechanism of infection, evaluation of pathogenesis, and course of infection in animals and cell culture systems. Experience in the performance of safety and efficacy experiments is desired. We require a PhD in microbiology, or related science, with a strong background in immunology and biochemistry. Strong organizational skills, excellent oral and written communication, and knowledge of experimental design and statistical analysis are necessary.

SCIENTIST IV Protein Purification (Dept. LD/P-4)

The successful candidate will have extensive experience in the purification of diverse proteins, with emphasis on recombinant proteins from prokaryotic and eukaryotic sources. Demonstrated knowledge of state-of-the-art purification methods and problem-solving ingenuity is essential. Experience in purification of monoclonal antibodies and engineered proteins is helpful. The position includes the evaluation and development of new purification techniques and development of novel assay methods pertaining to product purity. In addition, the design/review of project objectives is expected. Knowledge of GLP/GMP and effective communication skills are required. Qualified individual will have a PhD in biochemistry, plus at least 3 years' relevant industrial or post-graduate experience.

Baxter Healthcare Corporation, a Fortune 100 company, is synonymous with products, systems and services devoted to improving health care throughout the world. We provide a smoke-free environment, competitive compensation and benefits. Please send your resume in confidence (*indicating on the outer envelope the Dept. Code for your position on interest*): **Baxter Hyland Division, Human Resources Dept., 4501 W. Colorado Blvd., Los Angeles, CA 90039.** An Affirmative Action/Equal Opportunity Employer.

Hyland Division

Baxter

Committee on International Organizations and Programs STAFF DIRECTOR

The National Academy of Sciences/National Research Council is seeking a staff director to provide leadership of a program concerned with global issues and international networking cooperation in science and technology through international multilateral organizations. Will assist the U.S. science and technology community in the conduct of global programs such as environmental change, energy development, natural hazards, and human resources, providing policy advice to strengthen effective U.S. participation. Other duties include managing contracts supporting U.S. membership in nongovernmental scientific organizations, i.e., the International Council for Scientific Unions (ICSU), coordinating the involvement of corresponding U.S. national committees, and monitoring activities of intergovernmental organizations, e.g., UNESCO and others. Position requires an advanced degree in science, engineering, science policy, or international relations, with 8 or more years of related experience, demonstrated effective management and supervisory skills, effective oral and written communications skills, demonstrated ability to prepare position papers on a variety of international science policy issues, and capability to conduct strategic planning. Familiarity with international scientific organizations and their linkages to global programs is desirable. Fluency in one or more European languages is desirable, but not mandatory. Please send resume in confidence to: NRC/OIA, HA 450 (CP), 2101 Constitution Avenue, NW, Washington, DC 20418. EOE.



MOLECULAR BIOLOGISTS

DNX is an established leader in the emerging field of transgenic sciences, developing enhanced biological models and systems for use in drug discovery, chemical safety testing, transgenic pharmaceutical production, and livestock improvement. Career opportunities currently exist in our new research and development facilities in Princeton, New Jersey.

RESEARCH SCIENTIST

A position is available for a Ph.D. level scientist to develop novel transgenic animal models of human disease for pharmaceutical testing. Applicant should have a Ph.D. in molecular biology or related discipline with 0-3 years of postdoctoral training. Excellent oral and written skills a must. Experience in animal model development is preferred. Expertise in transgenic methodology is not required.

DNX offers an excellent working environment and an ideal location (midway between New York and Philadelphia), as well as competitive compensation and a superior benefits package. Individuals interested in a challenging opportunity at an exciting and rapidly growing company are invited to submit a curriculum vitae or resume and the names of three references to:



**Employment Manager,
303B College Road East,
Princeton, NJ 08540**

POSITIONS OPEN

FACULTY POSITION ASSISTANT PROFESSOR OF INDUSTRIAL HYGIENE

The Department of Biomedical and Environmental Health Sciences, School of Public Health, University of California, Berkeley, invites applications for a tenure-track appointment at the assistant professor level in the field of industrial hygiene. Applicants must possess a doctoral degree in an appropriate subspecialty of public health, engineering, or chemistry and demonstrated professional commitment to and competence in the field of industrial hygiene. The appointee will be expected to establish a research program focused on issues of exposure assessment in the occupational environment. Teaching duties will include a professionally oriented course in industrial hygiene at the master's level and a graduate seminar in exposure assessment issues in occupational and environmental health.

Applicants should send curriculum vitae, a statement of teaching and research interests, and the names of three references to: **Professor Robert C. Spear, School of Public Health, University of California, Berkeley, CA 94720**, by the closing date of 15 September 1991. The anticipated date of appointment is 1 July 1992.

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

FACULTY POSITION IN NEUROSCIENCE

Applications are invited for a tenure-track ASSISTANT OR ASSOCIATE PROFESSOR position. A Ph.D. or M.D. and postdoctoral training are required. The candidate is expected to develop an independent and externally fundable research program and to participate in neuroscience teaching. Curriculum vitae, a statement of research interests, teaching experience, and the names of three references should be sent by 1 August 1991 to: **Dr. William J. Jackson, Department of Physiology and Endocrinology, Medical College of Georgia, Augusta, GA 30912-3000**. An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN GENETIC EPIDEMIOLOGY

The Fred Hutchinson Cancer Research Center (FHCRC) is developing new initiatives in the genetic epidemiology of cancer. One or more genetic epidemiologists or geneticists with epidemiologic experience, whose primary interest is in etiologic studies of cancer, will be recruited at the ASSISTANT OR ASSOCIATE PROFESSOR (MEMBER) level. A Ph.D. or M.D. with relevant training and experience is essential. Laboratory training in relevant molecular biological techniques is highly desirable.

Resources available include existing population-based data sets with biological specimens and laboratory facilities. These positions carry a joint appointment with the University of Washington Department of Epidemiology. Some participation in the teaching program is expected. Send curriculum vitae to: **Janet R. Daling, Ph.D., FHCRC, 1124 Columbia Street, Seattle, WA 98104**. Equal Opportunity Employer. Closing date is 30 September 1991.

TENURE-TRACK FACULTY POSITION DEPARTMENT OF PHARMACOLOGY LOYOLA UNIVERSITY CHICAGO, STRITCH SCHOOL OF MEDICINE

The Department of Pharmacology, Loyola University Chicago, Stritch School of Medicine, is seeking to fill a tenure-track ASSISTANT PROFESSOR or ASSOCIATE PROFESSOR position. The candidate should have a Ph.D. and/or M.D. degree, postdoctoral experience, and a strong commitment to excellence in research and teaching. Evidence of originality, scientific accomplishment, and promise of ability to develop a productive, independent research program is essential. Research emphasis in either molecular neuropharmacology or neurotoxicity is preferred, but not a stipulation for acceptance to this position.

The position is available immediately. Salary is competitive, and based on experience and qualifications. Start-up support will be provided for early development. Candidates should send their curriculum vitae, three letters of recommendation, representative reprints, and a synopsis of their current and future research interests to: **Dr. Israel Hanin, Chairman, Department of Pharmacology, Loyola University Chicago, Stritch School of Medicine, 2160 South First Avenue, Maywood, IL 60153**. Telephone: 708-216-3261.

POSITIONS OPEN

The Department of Ophthalmology and Visual Science, Yale University School of Medicine, invites applications for a tenure-track FACULTY POSITION in molecular genetics and biology. The successful candidate should possess a Ph.D./M.D. degree and have demonstrated ability to develop a vigorous research program. Please send a description of career, research interests, curriculum vitae, and the names of three references to: **Chair, Search Committee, Department of Ophthalmology and Visual Science, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510**. Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION, CLINICAL CHEMISTRY. The Department of Chemistry at Cleveland State University (CSU) invites applications for a tenure-track faculty position at the ASSISTANT PROFESSOR level in clinical chemistry. A Ph.D. degree in clinical chemistry, chemistry, or biochemistry is required. Eligibility for certification by the American Board of Clinical Chemists is desired. Responsibilities will include teaching and establishment of a competitive research program at the undergraduate, M.S., and Ph.D. levels. The Clinical Chemistry Program at Cleveland State University is affiliated with the MetroHealth Medical Center and the Cleveland Clinic Foundation and is COMACC-accredited at the Ph.D. level. The position is available fall 1992. Deadline for applications is 1 November 1991. Send curriculum vitae, three letters of recommendation, and a description of research plans to: **Dr. David Anderson, Chair, Clinical Chemistry Search Committee, Department of Chemistry, Cleveland State University, East 24th and Euclid Avenue, Cleveland, OH 44115**. CSU is an Equal Opportunity/Affirmative Action Employer and welcomes applications from underrepresented groups.

TEACHING POSTDOCTORATE IN BIOLOGY. Beloit College seeks an individual, committed to quality undergraduate education, to teach developmental biology, zoology and genetics. A portion of the load will be as an intern in BioQUEST, a national consortium of undergraduate biology curriculum developers supported by NSF. Two-year appointment beginning 15 August 1991. Applications received by 26 July 1991 will be guaranteed consideration.

SCIENTIFIC SOFTWARE DEVELOPER. Beloit College seeks a computer software developer to collaborate with science educators producing quality simulations, professional tools, and equipment controllers. Three-year position, supported by the Howard Hughes Medical Institute, is oriented toward a research approach to life science education. Expertise in Macintosh software development (MPW, MacApp, object-oriented programming) is desirable. Begin 15 September 1991. Applications received by 15 August 1991 will be guaranteed consideration.

Interested candidates for both positions should submit curriculum vitae, official transcripts, three references, samples of software or written work, and statement of teaching philosophy to: **John R. Jungck, Chair, Department of Biology, Beloit College, 700 College Street, Beloit, WI 53511**. Equal Opportunity/Affirmative Action Employer. Women/minorities are encouraged to apply.

POSTDOCTORAL POSITION. Available immediately. Our research focus is in respiratory cell physiology, including the regulation of ciliary activity, intercellular communication, intracellular calcium and ion channel characterization using computer-assisted techniques, and fluorescence microscopy combined with patch-clamp methods, in vitro. Experience in patch-clamp methods desirable. Funds available for a 2-year appointment; salary is negotiable. Contact: **Dr. E. R. Dirksen, Department of Anatomy and Cell Biology, University of California, Los Angeles, Medical Center, 10833 Le Conte Avenue, Los Angeles, CA 90024-1763**. Telephone: 213-825-9565.

POSTDOCTORAL POSITION. Research involves insect behavioral response to toxins and its genetic correlation with physiological susceptibility. Expertise in quantitative genetics is required; expertise in mathematical modeling and behavioral studies is desirable. Applications for this 2-year position will be accepted immediately and until the position is filled. Submit curriculum vitae, names, and addresses of three references to: **Dr. Casey W. Hoy, Department of Entomology, Ohio Agricultural Research and Development Center, Wooster, OH 44691**.

FLOW CYTOMETRY SPECIALIST

SmithKline Beecham, a world leader in pharmaceutical research, is seeking a Flow Cytometry Specialist to join its cell sorter facility. The facility is equipped with the latest state of the art technology including a three laser Coulter Epics 753, a dual laser Coulter Epics 752, ACAS 470 interactive laser cytometer for adherent cells, up-to-date computers and other support equipment. The position requires a person with experience in flow or imaging systems and familiarity with computers.

The selected candidate will have a B.S. degree in the Biological or Biophysical Sciences or equivalent experience; 2 years of experience with flow cytometry or imaging systems; and a strong knowledge of computers. In addition, tissue culture experience is desirable.

Our state-of-the-art research facility is located in suburban Philadelphia, near Valley Forge, PA. We offer an attractive compensation/benefits/relocation package as well as a stimulating and challenging work environment with opportunities for professional and personal growth. For confidential consideration, please submit your C.V. to: Nancy Hasson, H0176, SmithKline Beecham Pharmaceuticals, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.



SmithKline Beecham
Pharmaceuticals

TOXICOLOGIST

You'll direct and coordinate technicians in carrying out toxicology studies (acute to carcinogenicity). This will include recording, analyzing, interpreting and reporting study data, along with designing and having responsibilities for the conduct of short term studies. This position will also share responsibilities for monitoring outside contract laboratories utilized by the department.

You should have a BS or MS degree and several years experience in a pharmaceutical or contract Toxicology company or a PhD degree.

We offer outstanding salaries, benefits, and relocation allowances, and a pleasant and challenging work environment which rewards accomplishment. This unit of the Bristol-Myers Squibb Pharmaceutical Research Institute is located in Evansville, Indiana, a pleasant mid-western community offering outstanding family living.

Please send resume in confidence, stating salary requirements to:

Research Recruitment — 6L68, B109
Pharmaceutical Research Institute
Bristol-Myers Squibb
2400 W. Lloyd Expressway
Evansville, IN 47721-0001

We are an equal opportunity employer M/F/D/V



Bristol-Myers Squibb Company

RESEARCH UPDATE

A commitment to parasitology is evident at Cyanamid.

At the Agricultural Research Division of American Cyanamid Company, you'll be part of a winning team that has produced 17 new products in 4 years. We have a long-range commitment to discovering ways to increase worldwide crop and livestock production through chemical, biochemical and biological research. This commitment is evidenced by our expanding research budget which has tripled over the last decade.

The following opportunities exist in our Clinical Development Laboratory, where you will find a dedicated effort to treat and prevent disease, promote growth and improve feed efficiency in livestock and poultry.

Research Veterinarian

The successful candidate will conduct safety and efficacy studies in various animals, primarily cattle and swine. Studies may also involve experimental surgeries and work with bacterial pathogens of importance in livestock and poultry. You must be experienced in the design and statistical analysis of experiments with large animals. A DVM is required; MS or PhD a plus. Dept. KS-1

Research Parasitologist

In this position, you will conduct studies to evaluate the efficacy of anthelmintics in laboratory and farm animals. These studies may also include the development of parasitological disease models. The successful applicant must have a PhD in Parasitology and experience conducting experiments with large animals. Dept. KS-2

Senior Research Parasitologist

You will conduct studies to evaluate the efficacy of anthelmintics and anticoccidials in farm animals and poultry. Studies may include the development of parasitological disease models and work with ectoparasitocides. A PhD in Parasitology, minimum of 3 years' experience, and a working knowledge of helminthology and protozoology are requisites. Dept. KS-3

American Cyanamid Company offers an excellent compensation and benefits package which includes 401(k) savings plan, flex-time work schedules and a convenient location one hour from New York City or Philadelphia. We invite you to forward your resume, indicating appropriate position code to: Employment Office, American Cyanamid Company, Agricultural Research Division, P.O. Box 400, Princeton, NJ 08543-0400. An Equal Opportunity Employer M/F/H/V.



Molecular Osteoporosis Research Japan

Hoechst, one of the world's leading pharmaceutical companies, is presently searching for a highly motivated and creative molecular biologist to join our osteoporosis research team. The successful candidate will work in the Department of Molecular Biology, which is part of Hoechst's Pharma Research Laboratories located in the suburbs of Tokyo. Presently our research program "Metabolic bone disease" is undergoing a rapid expansion. It includes chemical, biochemical and biological approaches to understand the key processes in bone formation and resorption and, consequently, to prevent or to delay osteoporosis. An independent and open research environment prevails. Collaborations and interactions with scientists throughout the world exist and will be actively encouraged.

Candidates should be able to communicate both in Japanese and in English, should possess a PhD or MD degree and should have experience in gene cloning, sequencing and expression techniques. Strong background knowledge in osteoporosis research is not required, but may be helpful. You should be capable of carrying out independent research at the bench. Salary and benefits will be competitive.

Candidates are invited to send their application, including detailed CV, previous experience and a complete list of publications to: Dr. Egon Amann, Department of Molecular Biology, Pharma Research Laboratories, Hoechst Japan Limited, 1-3-2 Minamidai, Kawagoe-shi, Saitama-Ken 350, Japan (TEL 0492-41-8463; FAX 0492-41-6475).

Hoechst



ヘキスト ジャパン株式会社

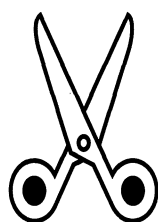
National Institutes of Health
Public Health Service

FELLOWSHIP IN ELECTROPHYSIOLOGY

The Laboratory of Neurosciences at the National Institute on Aging, Bethesda, Maryland invites applicants for a Fellowship position to study voltage and neurotransmitter-gated ionic currents in aneuploid dorsal root ganglion and hippocampal neurons, and to study synaptic transmission and synaptic integrity in the aneuploid nervous system. The program will primarily involve whole cell and single channel patch clamp recordings of normal and trisomy 16 cultured fetal mouse neurons, which provide a model of human trisomy 21 (Down syndrome). Experience in patch clamp recordings is required.

Interested candidates should submit their Curriculum Vitae and two letters of recommendation to: **Stanley I. Rapoport, M.D., Chief, Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, Building 10, Room 6C103, Bethesda, MD 20892.**

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Postdoctoral Positions Plant Molecular Biology

Several postdoctoral positions are available in the newly formed Plant Molecular Biology group within the Department of Biology at New York University. Research topics include the molecular biology of amino acid biosynthesis in higher plants (Dr. Gloria Coruzzi) and the molecular and genetic basis of root development in *Arabidopsis* (Dr. Philip Benfey). **Positions are available starting as early as January 1, 1992.** Those with experience in molecular biology and molecular approaches to development (not necessarily in plants) are encouraged to apply. Please send curriculum vitae and three letters of recommendation to **Dr. Gloria Coruzzi or Dr. Philip Benfey, Department of Biology, New York University, 1009 Main Building, Washington Square, New York, N.Y. 10003.**

NEW YORK UNIVERSITY

NYU encourages applications from women
and members of minority groups



The Immune Response Corporation

THE IMMUNE RESPONSE CORPORATION has a postdoctoral position available to study T cell immunoregulation in Autoimmune Disease at our suburban San Diego R&D facility. Experience in cellular immunology and/or molecular biology is desired.

Interested candidates should forward their curriculum vitae to:

**Chief Scientific Officer
The Immune Response
Corporation**

5935 Darwin Court

Carlsbad, CA 92008

Ref: Postdoctoral Fellow

EQUAL OPPORTUNITY EMPLOYER

Manager, Biotechnology Development

Syntex Corporation is an international health care organization involved in human and animal pharmaceuticals and medical diagnostic equipment. Our Chemicals Group Technology Center is located in Boulder, Colorado, at the foot of the magnificent Rocky Mountains. The focus of this Center is the research and development of innovative processes for the manufacture of bulk pharmaceuticals. We are expanding our capabilities in the biochemical area, and are seeking an experienced manager to guide research teams and lead the evolution of the group. This growth will include promoting the role of the group in the corporation and new facility expansions.

The successful candidate will have a Ph.D. in a biotechnology discipline with approximately 10 years R & D experience. This experience will involve the successful and innovative application of recombinant technology for commercialization of a product. GMP pilot plant or manufacturing experience involving scale-up of fermentations and down stream processing should be included.

Syntex offers a complete benefits package, competitive salaries and bonus eligibility. If you are interested in a challenging opportunity and meet the above qualifications, please send your resume in confidence to: **Barbara Kazmier, Syntex Chemicals, Inc., 2075 N. 55th St., Boulder, CO 80301.** Syntex is an equal opportunity employer.



RESEARCH ASSOCIATE

Calcitek, a division of a multinational organization and a manufacturer of implantable medical and dental devices, has an immediate opportunity for a researcher. In this challenging role you will be responsible for planning and conducting complex R&D projects involving new materials and technologies in support of our strategic and operating plans.

Qualified applicants will have a Ph.D. in materials science, biomedical engineering, or chemistry with one or more years of related industrial experience, or an M.S. in one of these disciplines with at least five years related research or industrial experience.

Calcitek offers a competitive benefits package including medical, dental, life, vision, and 401K retirement plans. To apply, please send your resume in confidence to:

**Personnel Director
CALCITEK
A Company of SULZERmedica
2320 Faraday Avenue
Carlsbad, CA 92008
EOE**

Director, Process Development - Ph.D.

Applications are invited for a senior research scientist to manage CYTOGEN's Process Development Group. You will manage a group of scientists responsible for the development, scale-up, and implementation of GMP processes for the manufacture of CYTOGEN's protein-based biological products. Responsibilities will include antibody production, purification, conjugation development and scale-up, validation and technology transfer to the manufacturing group. This position will demand close interaction with the analytical, regulatory, and quality control groups. Requirements for this key role include a Ph.D. in Biology, Biochemistry, Biochemical Engineering, Chemical Engineering or related discipline and 8 or more years of industrial experience in the design and development of large scale manufacturing processes for production of monoclonal antibody-derived or recombinant DNA-derived protein biologicals. Knowledge of the regulatory issues and requirements associated with the production of biologicals for pharmaceutical use is essential. Previous experience in the development of pharmaceutical grade monoclonal antibody products is highly desired.

Assistant/Associate Director - Ph.D. Fermentation Process Development

We seek a senior research scientist to significantly expand our existing Fermentation Process Development Group. The principal responsibilities of this individual will be to identify and develop optimal production methods for mammalian cell-derived protein biologicals, and establish and validate GMP manufacturing processes for these proteins. Requirements for this key post include a Ph.D. in Biology, Cell Biology, Biochemistry, Biomedical Engineering or related discipline and 5-8 years of industrial experience with a variety of mammalian cell fermentation technologies at the multigram production level. Knowledge of the regulatory issues and requirements associated with the production of biologicals for pharmaceutical use is essential; specific experience with the manufacture of monoclonal antibodies is highly desirable.

CYTOGEN Corporation is a biopharmaceutical company dedicated to meeting human medical needs with innovative technology in the diagnosis and treatment of cancer and cardiovascular disease. The Company offers an excellent starting salary and comprehensive benefit package. Interested candidates should send their resume in confidence to: **Employment Manager, CYTOGEN CORPORATION, 600 College Road East, CN-5308, Princeton, NJ 08540-5308.** CYTOGEN is an equal opportunity employer (m/f/h).

CYTOGEN
CORPORATION

Innovative Technology Targeted to Medical Needs

Hybritech Incorporated is a worldwide, research-based corporation applying monoclonal antibody and other leading edge technology to the development of human health care. We have several positions available in our Manufacturing Development and Manufacturing Technical Support Departments.

Bioprocess Chemists

The scientists or engineers will be responsible for leading bioreagent manufacturing process improvement projects in the areas of protein purification, protein modification, bioreagent formulation, and automation of these processes. The individuals will be responsible for trouble-shooting processes, developing processes, validation of processes, the technical aspects of raw material qualification, characterization of key raw materials and intermediates and identification of process monitoring methods.

All candidates should have extensive chromatography and scale-up experience, SPC and statistical approaches to experimental design experience, as well as strong technical leadership and communication skills. A thorough understanding of cGMP/cGLP is required. Experience with bio-analytical and process analytical chemistry is desired. Experience with manufacturing operations is desired.

Scientists should have a Ph.D. in chemistry or biochemistry with 3-7 years industrial experience in Process Development or a BS/MS with equivalent experience. Engineers should have a BS/MS in Engineering with a minimum of 3 years industrial experience in Bioreagent Manufacturing or Process Development.

Bioanalytical Chemists

The scientists and associates will be responsible for troubleshooting test methods, and developing test methods to troubleshoot process problems.

Experience in protein separation methods such as HPLC and electrophoresis is required. A thorough understanding of cGMP/cGLP is required. All candidates should have experience with assay validation, SPC, and statistical approaches to experimental design. Strong technical leadership and communication skills are required.

Candidates should have a Ph.D. in chemistry or biochemistry with 2-4 years industrial experience in bioanalytical chemistry or a BS/MS in chemistry with 2-4 years industrial experience in bioanalytical chemistry.

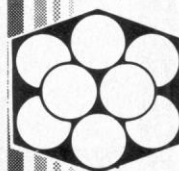
Hybritech offers a stimulating work environment and competitive salaries. Interested individuals should send their resumes to: **HYBRITECH INCORPORATED, Human Resources Dept. DC-S/7-12-91-BC, P.O. Box 269006, San Diego, CA 92196-9006.** We are an equal opportunity employer



- Cambridge Biotech Corporation is a leader in the development of adjuvants, recombinant proteins and monoclonal antibodies as the basis for vaccine, therapeutic and diagnostic products for humans and animals. Additionally, we utilize recombinant technology in the development and production of antigens and are a major producer of viral diagnostic screening and confirmatory products. We offer the following opportunity in our Immunology group:

BACTERIAL IMMUNOLOGIST

- As part of an effort to design bacterial vaccines, responsibilities will include: developing assays for evaluating animal immune responses to formulations of bacterial vaccines, evaluating the role of adjuvants in vaccine formulations, and investigating serologic crossreactivity with related bacteria.
- Qualified applicants will possess an MS or PhD in microbiology, biochemistry or a related discipline with several years' related research experience including basic immunochemistry methods, protein conjugation and purification techniques, electrophoretic techniques, tissue culture and bacterial culture methods also required.
- Cambridge Biotech offers a stimulating research environment with excellent compensation and benefits, including an employee stock purchase program and 401(k) Plan with generous employer match. To apply, please send your resume in confidence to: Cambridge Biotech Corporation, Human Resources Department, 365 Plantation Street, Box S712, Worcester, MA 01605. An Equal Opportunity Employer



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RESEARCH OPPORTUNITIES IN NEUROSCIENCES

Amgen has distinguished itself as the industry leader in the development of human therapeutic products through applications of biotechnology. As a result of our continuing commitment to the discovery and characterization of novel neurotrophic factors, we are actively seeking scientists to contribute to the development of this program. All positions listed below require a PhD in an appropriate discipline and relevant postdoctoral experience.

NEUROPHYSIOLOGY Dept. #600

Applicants for this position must have interest and skills in either *in vivo* or *in vitro* electrophysiology of central neural systems. Responsibilities of this position include testing the effects of neural growth factors on physiological responses of central systems affected by neurodegenerative diseases.

NEUROPHARMACOLOGY Dept. #601

The successful candidate for this position must have experience in the measurement of neurotransmitter metabolism *in vitro* and *in vivo* as well as pharmacological characterization of neurotransmitter receptors.

IN VIVO MODELING Dept. #602

Candidates for this position must have experience in the development of lesional paradigms of neurodegenerative diseases, including the analysis of the effects of intervention.

MOLECULAR BIOLOGY Dept. #603

This individual will be responsible for the cloning and expression of novel neurotrophic factors. Applicants should have a strong foundation in the construction and screening of cDNA libraries and expression cloning of cellular growth factors.

CELL BIOLOGY Dept. #604

Candidates for this position should have demonstrated expertise in the characterization of the actions of neurotrophic factors on cultured neurons or glial cells.

Amgen provides a stimulating and challenging research environment in which individuals are given the resources necessary to achieve their goals. Our compensation and benefits package, including equity offerings, reflects our commitment to attracting the best scientific talent available. If you have the necessary skills and would like to be a part of an organization that places its highest priority on its human resources, please send a complete CV, in confidence, to:

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Amgen Center
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CA 91320-1789

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POSITIONS OPEN

One **POSTDOCTORAL OR JUNIOR FACULTY** position to work with (i) immunology of Lyme disease and (ii) growth factors of human prostate cancer cells is available. Recent Ph.D. graduate with a strong background of immunology and protein chemistry is preferred. Send curriculum vitae with names of three references to: **Professor J. W. Chiao, Department of Medicine, New York Medical College, Valhalla, NY 10595.**

POSTDOCTORAL POSITION. A position is available to investigate the role of metalloproteinases and other neutral proteinases in the degeneration of neuronal networks especially in regards to Alzheimer's disease. Please send curriculum vitae, statement of research experience and interest, and names of three references with phone numbers to: **Zoltan A. Tokes, Ph.D., Department of Biochemistry, University of Southern California, Health Science Campus (CRL 102), 1303 North Mission Road, Los Angeles, CA 90033. FAX: 213-224-7679. Equal Opportunity Employer. Minorities are encouraged to apply.**

POSTDOCTORAL POSITION DANA-FARBER CANCER INSTITUTE

Available immediately to investigate the interaction of retroviruses with cells and host organisms. Predoctoral experience in molecular biology essential, working knowledge of immunology is highly desirable. Dana-Farber Cancer Institute is a teaching affiliate of Harvard Medical School. Send curriculum vitae and names of three references to: **Dr. Ruth M. Ruprecht, Chief, Laboratory of Viral Pathogenesis, 44 Binney Street, Boston, MA 02115. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION. Available 1 July 1991 to participate in ongoing studies of molecular mechanisms of signal transduction. Familiarity with receptor biochemistry and recombinant DNA technology desirable. Projects employ molecular approaches to study receptor-effector coupling, regulation, and function of G protein-linked receptors. Send résumé and names of three references to: **Dr. Gary R. Luthin, Department of Physiology, Mail Stop 409, Hahnemann University, Broad and Vine, Philadelphia, PA 19102. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION SKIDAWAY INSTITUTE OF OCEANOGRAPHY

A postdoctoral position is available at Skidaway Institute of Oceanography to conduct research in the field of physical-biological modeling of coastal regions. We invite applications from scientists with a Ph.D. in oceanography, mathematical ecology, applied mathematics or a related quantitative science for a 1-year position with the possibility of renewal for a second year. Applicants must have worked with differential equations and numerical techniques and have some familiarity with biological/ecological processes. Working knowledge of C or FORTRAN plus some experience with graphical display methods is essential.

Please submit, by 31 July 1991, a résumé, a list of three references and a statement of research interests to: **Dr. Jack Blanton, Skidaway Institute of Oceanography, P.O. Box 13687, Savannah, GA 31416. The position starts 1 October 1991. An Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS. Available starting fall 1991/winter 1992 in an NIDA-sponsored basic research training program in Pharmacology of Drugs of Abuse. Preceptors and research areas available include: R. Bodnar (behavioral pharmacology), J. Goldfarb (electrophysiology of 5-HT and hallucinogens), J. P. Green (receptor-mediated control of transmitter release), R. Iyengar (involvement of G-proteins in desensitization and tolerance), M. Orlowski (proteolytic mechanisms and inhibitors of proteolysis), J. Roberts (opioid gene expression), H. Weinstein (molecular determinants of drug action), S. Wilk (regulation of metabolism of bioactive peptides). *Candidates must be U.S. citizens or permanent residents.* Send curriculum vitae, a letter describing your research experience and indicating the preceptors/projects of interest in the training program, and the names, addresses, and telephone numbers of three references to: **Dr. J. Goldfarb, Department of Pharmacology, Box 1215, The Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029-6574. An Equal Opportunity Employer.**

POSITIONS OPEN

A **POSTDOCTORAL POSITION** is available in September 1991 to conduct studies of calcium signal transduction in plants. Research areas will be focused on the characterization of the calmodulin system in normal and transgenic plants, as well as studies of calcium-dependent protein kinases and their substrates in various plant systems. Candidates with expertise in molecular biology, biochemistry, and/or cell biology are desired. Please send curriculum vitae and three letters of recommendation to: **Dr. Daniel M. Roberts, Department of Biochemistry, University of Tennessee, Knoxville, TN 37996.**

POSTDOCTORAL POSITION

Position available to study proteins derived from mammalian cilia in a pulmonary research laboratory. Expertise in the area of biochemistry and/or cell biology is preferred. *U.S. citizenship or permanent visa is required.* Curriculum vitae and names of three references to: **Joseph H. Sisson, M.D., Pulmonary Medicine Section, Department of Internal Medicine, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198-2465. The University of Nebraska Medical Center is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION

Immediately available for recent (within past 36 months) doctoral degree recipient to investigate cellular and molecular mechanisms of respiratory epithelial cell proliferation, differentiation, carcinogenesis, and oncogenesis using in vitro and in vivo approaches. First year stipend of \$23,000 per annum plus health insurance, relocation allowance, and leave benefits. *U.S. citizenship or permanent residence required.* Contact: **Dr. David E. Bice, Education Coordinator, Inhalation Toxicology Research Institute, P.O. Box 5890, Albuquerque, NM 87185 or call 505-846-7387 for application materials. We are an Equal Opportunity Employer.**

POSTDOCTORAL POSITION BIOCHEMICAL TOXICOLOGY

Available immediately to study the molecular mechanisms of drug/chemical-induced toxicity and cytoprotection. Experience with hepatocyte isolation, subcellular organelle isolation, HPLC, and protein purification is desired. A Ph.D. in toxicology, pharmacology, biochemistry, or experimental pathology is required. An annual salary of \$18,000 to \$29,000 is available, depending on experience and qualifications. Please send curriculum vitae and names and address of three references to: **Dr. Marc W. Fariss, Environmental and Molecular Toxicology, Department of Pathology, Medical College of Virginia, Richmond, VA 23298-0662.**

RESEARCH FORESTER (INTERDISCIPLINARY) USDA-FOREST SERVICE

The Southern Forest Experiment Station is seeking a **POSTDOCTORAL SCIENTIST** for its Forest Insect Research Unit at the Alexandria Forestry Center, Pineville, Louisiana. We are interested in candidates with research experience in whole-plant physiology, partitioning of carbon, and herbivore/plant interactions. Research objectives are (i) to develop knowledge of the effects of environment and seasonal ontogeny of host trees on host-tree physiological conditions affecting susceptibility to the Southern Pine Beetle (SPB), and (ii) to determine and evaluate SPB attack success in relation to host-tree characteristics. The ultimate goal is to understand the role of host trees in the onset, duration, and severity of SPB outbreaks.

Qualifications: Ph.D. or equivalent in forestry, plant physiology, entomology, or related field. Contact: **Dr. Peter L. Lorio, 318-473-7231.** Application materials sent on request. Note: Application postmark deadline: 23 August 1991.

An Equal Opportunity Employer.

POSTDOCTORAL FELLOW

A position is available immediately for a postdoctoral fellow to participate in studies of the role of ATP as a neurotransmitter and neuromodulator in smooth muscle. Send curriculum vitae and the names of three references to: **Dr. David P. Westfall, Department of Pharmacology, University of Nevada School of Medicine, Reno, NV 89557. Affirmative Action/Equal Opportunity Employer.**

Genelabs is a human health care company that is discovering and developing products for the treatment and prevention of viral diseases and cancer. We offer a stimulating research environment with excellent collaborative opportunities. The following position is available immediately:

Postdoctoral Fellow

We are seeking a postdoctoral fellow to work on HIV infection of macrophage lineage cells including evaluation of candidate therapeutic agents in macrophage based assay systems and exploration of macrophage derived soluble factors in the pathobiology of HIV infection and its clinical manifestations.

The successful candidate will have extensive cell culture and virology experience with protein biochemistry expertise desirable.

Genelabs has an excellent compensation program including our medical & dental plan, stock option plan, 401(k), 125(k), bonus plan and much more. Qualified candidates should send their C.V. with statement of research interest and three references to: **Human Resources, Dept. H, 505 Penobscot Drive, Redwood City, CA 94063. We are an equal opportunity employer.**



GENELABS
INCORPORATED

Public Health Service National Institutes of Health Fellowship in Brain Lipid Metabolism

The Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, invites applications for a Fellowship position to study brain lipid metabolism in relation to development, aging and neuroplasticity, pharmacological and physiological activation in animals. Research opportunities include examination of incorporation of radiolabeled fatty acids into brain, using analytical techniques to examine mass and specific activity within precursor pools and phospholipid species; examining brain lipid composition in Alzheimer's disease. The position is located in Bethesda, Maryland, and is available immediately.

Interested candidates should submit their Curriculum Vitae and two letters of recommendation to: **Stanley I. Rapoport, M.D., Chief, Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, Bldg. 10, Room 6C103, 9000 Rockville Pike, Bethesda, MD 20892**

NIH is an Equal Opportunity Employer

Ph.D. Biochemistry/Molecular
or Cellular Biology

Research Investigator Cardiovascular Biochemistry

Bristol-Myers Squibb Pharmaceutical Research Institute is continuing to expand our extensive research efforts in the areas of cardiovascular, infectious, oncologic and metabolic diseases.

Currently, we are seeking a Research Investigator to establish a laboratory to examine various aspects of cardiac biochemistry, including energy metabolism, Ca^{++} fluxes and ion pump activities especially in relation to hypoxia. In this position, you will be part of a myocardial ischemia/heart failure team involving physiologists, pharmacologists and chemists in a coordinated drug discovery effort. Candidates should possess a Ph.D. Biochemistry/Molecular or Cellular Biology and postdoctoral experience.

Please forward your resume to: **Bristol-Myers Squibb Pharmaceutical Research Institute, Human Resources Department 226, P.O. Box 4000, Princeton, NJ 08543-4000.** An equal opportunity employer.



Bristol-Myers Squibb Company

POSTDOCTORAL FELLOWS

Department of Virology

Hoffmann-La Roche, a research-intensive pharmaceutical company, is seeking postdoctoral fellows to join the Department of Virology.

The successful candidate will have the opportunity to carry out basic research while interacting with colleagues skilled in translating relevant findings into therapeutic approaches. Regulation of viral gene expression (herpes simplex virus, hepatitis B virus, and human immunodeficiency virus), control of viral DNA replication (human papilloma virus) and virus-related cellular transformation are areas of interest. Publication of basic research findings is encouraged.

Qualifications include a PhD in Molecular Virology and relevant research training. Hoffmann-La Roche offers a stimulating research environment, competitive stipends and excellent benefits, at a convenient suburban New Jersey location 12 miles from New York City. For consideration, please send your curriculum vitae and the names of three references to: **Mr. Richard Stevenson, Exploratory Research, Hoffmann-La Roche, 340 Kingsland Street, Nutley, New Jersey 07110.** We are an equal opportunity employer.



Hoffmann-La Roche

Working Today For A Healthier Tomorrow

CHIEF Neurosurgery The University of Chicago

The Division of the Biological Sciences, which includes the Pritzker School of Medicine, at The University of Chicago is seeking a Chief of the Section of Neurosurgery for the Department of Surgery.

The Chief will be responsible for providing academic and administrative leadership in the research and teaching of undergraduate, graduate, post-graduate and medical students, as well as interns and residents. The successful applicant will be an outstanding clinical Surgeon with significant research accomplishments, an outstanding record of scientific productivity and demonstrated teaching and administrative abilities that would qualify him/her for the Rank of Professor. Please send a curriculum vitae to:

Dr. Stuart Yudofsky
Chairman, Search Committee for Neurosurgery
5841 S. Maryland Ave./Box 411
Chicago, IL 60637



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Benefit From Our Scientific Advances

The **Lindsley F. Kimball Research Institute of the New York Blood Center** is an internationally recognized research facility, dedicated to both basic and applied research in the field of hematology and transfusion medicine. Currently, we have immediate opportunities available in the following areas:

CELL BIOLOGY

Perform general technical work including cloning, determination of nucleic acid and amino acid sequences, transfection experiments, etc. BS degree in Molecular Biology required. Background in Biochemical, Molecular and Cellular Biological Techniques, coupled with at least 1 year experience in cloning essential.

SCIENCE & TECHNOLOGY

Provide technical support for the research lab including performance of experiments, analysis of data, handling of equipment and small research animals, as well as participating in the maintenance and organization of the lab. BS degree in Biology or related science field background required. Experience in research in Biology and Biochemistry. Prior experience with tissue culture required. Expertise in Biochemistry (Columns, Gels, etc.) and MOLECULAR BIOLOGY (Hybridization, blots) very helpful. Position offers excellent growth potential and the opportunity to learn new techniques.

Attractive salary and excellent benefits will be offered. Submit resume, indicating position of interest, with salary history/requirements, to: **The New York Blood Center, Mr. Jeffrey Slommer, Manager of Human Resources, 150 Amsterdam Ave, New York, NY 10023.** Equal opportunity employer M/F/H/V.



Lindsley F. Kimball

Research Institute

A Division of the New York Blood Center

Where concern for the community comes first

POSITIONS OPEN

POSTDOCTORAL POSITION MOLECULAR OPHTHALMOLOGY TRAINING PROGRAM

To study the relationship of oxidative stress and gene expression in lens epithelial cells. Available projects include investigation of the effect of H_2O_2 stress upon a Fos/Jun/AP-1 transcription system and studies of DNA damage and repair during aging of the human lens. Candidates should have a strong background in biochemistry and cell biology and experience with molecular biological techniques. Submit curriculum vitae with names and addresses of three references to: **Abraham Spector, Associate Director, Molecular Ophthalmology Training Program, Department of Biochemistry and Molecular Biophysics, Columbia University, 630 West 168th Street, New York, NY 10032. Columbia University takes Affirmative Action to ensure Equal Opportunity.**

POSTDOCTORAL POSITION. An NIH-funded position will be available September 1991 to develop and apply MRI microscopy techniques to problems in developmental biology. Background in MRI/NMR required. Opportunities exist for interdisciplinary and cooperative research within the Biological Imaging Center of the Beckman Institute at California Institute of Technology. Send curriculum vitae and names of three references to: **Dr. Russell Jacobs, Beckman Institute 139-74, California Institute of Technology, Pasadena, CA 91125. Telephone: 818-356-8390.**

TWO POSTDOCTORAL RESEARCH SCIENTIST POSITIONS. Available immediately to study molecular mechanisms of aging. Addressed are the roles of inhibitory oncogenes in aging-associated gene regulation. Particular attention is directed to mRNA stabilization. Molecular biology experience required. Ph.D. or M.D. with appropriate postdoctoral training required. Salary depends upon qualification and experience. Candidates should submit curriculum vitae and names of three references. Send to: **Dr. Victor Terranova, LTBCTR, Columbia University (CU), Columbia Presbyterian Medical Center, 630 West 168th Street, New York, NY 10032. CU is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL, RESEARCH ASSOCIATE, OR RESEARCH ASSISTANT PROFESSOR. To study structure-function relations of cell surface glycoconjugates and roles in intercellular cohesion of *Dictyostelium discoideum*, using chemical, biochemical, genetic, and/or immunological approaches. Previous experience with protein or glycoprotein biochemistry preferred. Available 1 January 1992. Level of appointment depends on previous experience. Please send curriculum vitae and three letters of recommendation to: **Professor Ellen J. Henderson, Department of Biology, Georgetown University, Washington, DC 20057.**

POSTDOCTORAL RESEARCH ASSOCIATE. Position available to participate in an established research program addressing the regulation of key enzymes in fatty acid and membrane phospholipid synthesis. Candidates with a recent Ph.D. degree interested in applying contemporary molecular biology and biochemistry to problems related to gene expression and membrane biogenesis in either bacterial or mammalian tissue culture systems should submit their curriculum vitae, reprints, and names of three references to: **Dr. Charles O. Rock, Biochemistry Department, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL OR RESEARCH ASSOCIATE. Is sought to join a research laboratory studying the cell and molecular biology of Alzheimer's disease with special emphasis on the role of the cytoskeleton in pathogenesis. Candidates should be experienced in current recombinant DNA technology and willing to learn state-of-the-art cell biological methods. Competitive salary is available. Send curriculum vitae and letters of reference to: **Dr. Lester I. Binder, The University of Alabama at Birmingham, Department of Cell Biology, School of Medicine and Dentistry, BHSB631, Birmingham, AL 35294-0005. Telephone: 205-934-1142. FAX: 205-934-0950. The University of Alabama at Birmingham is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA SAN FRANCISCO POSTDOCTORAL FELLOWSHIPS IN CANCER BIOLOGY

Several fellowships are available for research on the genetic, molecular, cellular, and developmental aspects of cancer biology. The faculty include: **Michael J. Banda** (wound repair, proteinases and proteinase inhibitors), **James E. Cleaver** (DNA repair genes), **William F. Morgan** (chromosome damage and repair, SCEs), **John P. Murnane** (DNA recombination), **Roger A. Pedersen** (early mammalian development, cell lineage, transgenic mice and homologous recombination), **Zena Werb** (extracellular matrix invasion and remodeling, growth, development, repair, homologous recombination), and **Sheldon Wolff** (chromosome damage and repair, radiation cytogenetics, SCE's). Stipends are funded through NIEHS. Appointments can begin immediately. The requirements are a Ph.D. degree or equivalent, preferably in genetics, biochemistry, molecular biology, cell biology, or development. *Trainees must be U.S. citizen or permanent residents.* Send résumé, graduate transcript, statement of research interests, and three letters of recommendation to: **Dr. Zena Werb, Program Director, Laboratory of Radiobiology and Environmental Health, University of California, San Francisco, CA 94143-0750. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL ASSOCIATE

Two postdoctoral positions are available to apply molecular biological approaches to the study of membrane transport proteins and ion channels in the Department of Biological Chemistry, University of Michigan. Individuals should hold a Ph.D. in biochemistry or molecular biology with experience in gene cloning and the construction of cDNA libraries. The positions offer collaboration with projects at the Parke-Davis Pharmaceutical Research Division. Send curriculum vitae and three letters of recommendation to: **Dr. D. L. Oxender, Department of Biological Chemistry, University of Michigan, Ann Arbor, MI 48109-0606.**

POSTDOCTORAL RESEARCH POSITIONS SAN DIEGO REGIONAL CANCER CENTER

Postdoctoral research laboratory positions are available in the following areas: gene therapy, tumor immunology, human monoclonal antibodies, active tumor immunotherapy, immunoregulation. Interested candidates should send curriculum vitae and two letters of reference to: **Dr. Lee Fleming, San Diego Regional Cancer Center, 3099 Science Park Road, Suite 200, San Diego, CA 92121. An Equal Opportunity Employer.**

INTERNATIONAL INSTITUTE OF BIOLOGICAL CONTROL (CAB International) AND NERC CENTRE FOR POPULATION BIOLOGY (Imperial College)

TWO POSTDOCTORAL RESEARCHERS

Required for a 5-year project: "Improving Biological Control through Ecological Research." Two joint positions funded by The Leverhulme Trust and based at the Imperial College (London University) site at Silwood Park, Ascot. To explore the interface of theory and practice in the biological control of insect pests and weeds by natural enemies, including pathogens.

We seek experimental population ecologists interested in testing and developing theory, willing to spend periods of time abroad collaborating with existing IBC control programs.

Salary range: £11,399 to £18,165 (under review). Starting date: 1 October 1991.

For further details and applications, contact: **Professor J. H. Lawton, FRs, Centre for Population Biology, Imperial College at Silwood Park, Ascot, Berks SL5 7PY. Telephone: 0344-294346. Closing date: 26 July 1991.**

POSTDOCTORAL/RESEARCH ASSOCIATE. Chemist to conduct interdisciplinary research on chemical synthesis and characterization of organic molecules as radioiodinated CNS receptor ligands [*J. Med. Chem.* 34, 877 (1991)]. Job requires a Ph.D. in organic synthesis and familiarity with synthetic techniques: HPLC, NMR, FTIR and MS. Send résumé to: **Dr. Hank Kung, University of Pennsylvania, Department of Pharmacology, 159 Morgan/6084, Philadelphia, PA 19104.**

POSITIONS OPEN

POSTDOCTORAL POSITION. Available at magnetoencephalography laboratory. Experience in human electrophysiology/evoked potentials desirable. Please address all inquiries and send curriculum vitae to:

**Dr. A. C. Papanicolaou
Division of Neurosurgery, E-17
University of Texas Medical Branch
Galveston, TX 77550
Telephone: 409-761-3154**

NEUROBIOLOGY POSTDOCTORAL POSITIONS. Available in NIH-funded laboratories examining development and plasticity of the somatosensory and motor systems. Training is available in a variety of techniques including: monoclonal antibody production, tissue culture, in vivo and in vitro intracellular recording, and embryonic transplantation. Laboratory directors include: **Drs. Eric Frank, Cynthia Lance-Jones, H. Richard Koerber, and Joe Yip.** Applicants should send curriculum vitae and the names of three references to: **Neurobiology Search, Department of Neurobiology, Anatomy and Cell Science, University of Pittsburgh School of Medicine, Pittsburgh, PA 15261. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH FELLOWSHIP

The laboratory of Dr. William Reenstra, Ph.D., has a position available immediately for a Ph.D. biochemist/cell biologist with interests in cystic fibrosis to study the regulation of chloride channel activity. Experience with tissue culture is essential; experience with in vivo protein labeling or mammalian expression systems would be helpful. Send curriculum vitae and names of three references to: **Ms. Yvette Williams, Children's Hospital, Personnel, 747 52nd Street, Oakland, CA 94609. Refer to position 10115. Children's Hospital is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE/POSTDOCTORAL POSITION. Qualified individuals are needed to support research efforts of the Environmental Toxicology Research Program within the Research Institute of Pharmaceutical Sciences. Individual will be involved in EPA-funded research to evaluate maternal-fetal effects of anthropogenic chemicals in fish. Preference given to M.S. or Ph.D. in biological sciences. Experience in environmental testing and/or fish culture is desirable. Salary is competitive and commensurate with qualifications. Application deadline: until filled. Starting date is 1 August 1991 or as soon thereafter as possible. Contact: **Dr. William H. Benson, Coordinator, Research Institute of Pharmaceutical Sciences, University of Mississippi, 303 Faser Hall, University, MS 39677. Telephone: 601-232-7077. Minorities and women are encouraged to apply. The University of Mississippi is an Affirmative Action/Equal Employment Opportunity Employer.**

RESEARCH ASSISTANT/ ELECTROPHYSIOLOGY

Perform electrophysiology research. Duties include: whole cell and single channel patch-clamp technique, cell culture technique, animal processing, computer modeling of experimental data, write analysis program. M.S. in electrical engineering. Two years of experience in the field or 2 years of experience in electrical engineering teaching and/or electrical engineering research. Other requirements: computer modeling, C, Pascal, and Lotus. Salary: \$22,000 per year. Send résumé to: **Dr. Tahmouh, 10th and Chestnut Street, 9606 Gibbon Building, Thomas Jefferson University, Philadelphia, PA 19107. Must be lawful permanent resident or U.S. citizen. University is dedicated to smoke-free environment.**

RESEARCH ASSOCIATE. For treatment and research hospital in northwestern Ohio. Postdoctoral research involving studies on adenosine and adenine nucleotide metabolism and function utilizing protein purification, antibody technology, and the use of radioisotopes as physiological and biochemical techniques. Ph.D. degree in medical sciences with a concentration in physiology/biophysics, and a doctoral dissertation consisting of a laboratory study on adenosine and adenine nucleotide metabolism and function required. Forty hours per week, 8:30 a.m. to 5:00 p.m., Monday to Friday; salary: \$23,000 per year. *Must have proof of legal authority to work permanently in the United States.* Send résumé in duplicate (no calls) to: **G. Maugans, J.O. #1153588, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

POSTDOCTORAL SCIENTISTS

ANTI-INFECTIVES

SmithKline Beecham, a worldwide leader in pharmaceutical research, has a postdoctoral position immediately available in their Anti-Infectives HIV research group. The research program involves the study of HIV Pathogenesis and specifically deals with molecular approaches (i.e. site-directed mutagenesis) to identify and characterize novel targets in HIV.

Qualified candidates will have a Ph.D. in Virology, Biochemistry, Immunology or Pathology. Preference will be given to individuals with demonstrated expertise in virology, molecular biology and/or biochemistry.

Our state-of-the-art research facility is located in suburban Philadelphia, near Valley Forge, PA. SmithKline Beecham Pharmaceuticals provides a stimulating and challenging work environment, based on creativity, commitment and teamwork. We offer an attractive compensation/benefits/relocation package. For confidential consideration, please submit your C.V. and the names of three references to: Nancy Hasson, H0177, SmithKline Beecham Pharmaceuticals, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.



SmithKline Beecham
Pharmaceuticals

U.S. Public Health Service

Epidemiology Training Program

Applications are being accepted for the 1992 U.S. Public Health Service (PHS), Epidemiology Training Program. **APPLICATIONS ARE DUE SEPTEMBER 16, 1991.** Training will begin approximately July 1, 1992.

Features: The first year, trainees attend a university to study epidemiology, biostatistics, and related subjects. The subsequent two years, they will perform research with senior epidemiologists at one of the following: National Institutes of Health (NIH), Food and Drug Administration (FDA), National Center for Health Statistics (NCHS), or Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA).

Pay and allowances will depend on the personnel system agreed upon by the preceptor and the trainee. Agencies can use either of the following two mechanisms:

1. A limited appointment in the Commissioned Corps of the USPHS Commissioned Corps in which the usual starting rank is Lieutenant (O-3). The starting salary for an O-3 medical officer with dependents is approximately \$40,900 depending on training and experience. For non-medical officers of the same rank with dependents, the starting salary is approximately \$35,900. About 37% of these salaries is exempt from federal, state, and local income taxes.

2. Appointment as a staff fellow has starting salaries of \$38,500 for physicians and \$24,800 for non-physicians, with an increase in salary of \$2,000 each year. Educational costs and allowable relocation expenses for the first year are provided.

Eligibility: M.D., D.O., Doctorate in an allied health profession, or Ph.D., in a biomedical or behavioral science or equivalent, and one year of postdoctoral training or experience by 7/1/92; U.S. citizenship as of 9/16/91; acceptability to an accredited university offering an MPH or equivalent, or more advanced public health degree.

To obtain an application and more details, send your name and address to: **NIH Training Center, USPHS Epidemiology Training Program, EPS/100, 9000 Rockville Pike, Bethesda, MD 20892.**

Current Postdoctoral Opportunities Human Genome Research

The **Human Genome Center at Lawrence Livermore National Laboratory** has two postdoctoral research positions available to work within the context of the human genome initiative on the development and application of physical mapping technologies for the construction of integrated maps for human chromosomes 19 and 2.

One postdoctoral position will involve the design and implementation of new strategies for cloning, mapping, and characterizing cDNAs. These strategies will largely involve the construction of high-quality, full-length cDNA libraries, the development of master cDNA libraries, and the selection of chromosome-specific cDNAs. (**Contact: Dr. Anthony V. Carrano, 415-422-5698**)

The second position will focus on implementing mapping strategies that use yeast artificial chromosomes to obtain closure of the chromosome 19 cosmid contig map and that assist in the assembly and closure of the chromosome 2 map. In addition, emphasis will be placed on characterizing the telomeric and centromeric regions of these chromosomes. (**Contact: Dr. Emilio Garcia, 415-422-8002**).

Both positions require a PhD in Molecular Biology, Biochemistry, Genetics or an equivalent field with extensive experience in recombinant DNA, PCR, and hybridization-based technologies. Previous experience with yeast artificial chromosomes or cDNAs is highly desirable.

The **Biomedical Sciences Division** offers a wide variety of excellent research and computational facilities in addition to a highly competitive salary and benefits package. Interested applicants are invited to send their curriculum vitae to: **Phil Harding, Professional Employment Division, Lawrence Livermore National Laboratory, P.O. Box 808, Dept. A91265BS, L-725, Livermore, CA 94551.** Equal Opportunity Employer. U.S. citizenship desired, but not required.

University of California



**Lawrence Livermore
National Laboratory**

POSITIONS OPEN

POSTDOCTORAL POSITION. Available immediately to investigate cell wall/membrane biosynthesis in *Candida albicans*. Experience in cloning, sequencing, etc., or in enzymology of fatty acid/phospholipid biosynthesis is desirable. Send curriculum vitae and names of three references to: **Dr. R. L. Cihlar, Department of Microbiology, Georgetown University, Washington, DC 20007.** An Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE. Position available immediately to study the mechanism of nutritional effects on cell membrane lipids, receptors and enzymes. Ph.D. in biochemistry, molecular, or cellular biology or health-related field required. Experience in lipid chemistry, tissue culture, receptor binding, assay of guanine-binding regulatory proteins and adenylate cyclase desirable. Send résumé and addresses of three references to: **Dr. S. Q. Alam, Louisiana State University Medical Center (LSUMC), Biochemistry Department, 1100 Florida Avenue, New Orleans, LA 70119.** LSUMC is an Equal Employment Opportunity/Affirmative Action Employer.

BIOMEDICAL RESEARCHER. For southwestern Ohio cancer research center to conduct research in interferon receptors and interferon-mediated regulation of cellular gene expression and underlying biomedical mechanisms. Work involves cloning of genes, their isolation, and characterization, sequencing analysis, identification of functional and regulatory elements, identification of protein factors involved in regulations, their purification and characterization, and studies on signal transduction in gene regulation by interferons. No experience required in above duties but applicants will qualify with a Ph.D. in biochemistry or molecular biology. In addition, 2 years of research experience is required to include at least 1 year in area of gene cloning, nucleic acids, recombinant DNA studies, protein assays and protein purification techniques; and at least 1 year in tissue and cell culture, enzyme assay, various immunological techniques, protein assay, RNA quantitation and protein purification, to have been gained before, during or after degree. Must also have at least three journal publications in field of biomedical research. Forty hours per week, 8 a.m. to 5 p.m.; salary: \$28,000 per year. *Must have proof of legal authority to work permanently in the United States.* Qualified applicants send résumé in duplicate (no calls) to: **J. Davies, JO#1290041, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

COLLEGE OF PHYSICIANS AND SURGEONS COLUMBIA UNIVERSITY

The Biochemistry and Molecular Biology Section of the Department of Ophthalmology is seeking individuals to fill two positions at the **STAFF ASSOCIATE AND SENIOR STAFF ASSOCIATE** level. The chosen candidates will study the relationship of oxidative stress to cataract formation. Projects include (i) the development of enzyme mimics as antioxidative agents and elucidation of their mechanism of action: this research will investigate development of glutathione peroxidase mimics based on selenium chemistry and thioredoxin-like peptides which are recognized by thioredoxin reductase and other electron shuttle systems; and (ii) the effect of oxidative stress on cell biology with particular emphasis on the effect of H₂O₂ on gene integrity and gene expression, and the effect of H₂O₂ on gene integrity and gene expression, and the effect of H₂O₂ upon a FOS/JUN AP-1 transcription system. Candidates should have a strong background in biochemistry and/or biophysics, as well as cell biology. Submit curriculum vitae with names and addresses of three references to: **Abraham Spector, Ophthalmology Research, College of Physicians and Surgeons of Columbia University, 630 West 168th Street, New York, NY 10032.** Columbia University takes Affirmative Action to ensure Equal Opportunity.

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POSITIONS OPEN

CITY OF SEATTLE AQUARIUM LABORATORY

TECHNICIAN. Salary: \$2470 per month. Ensure support system quality. Use leadership skills to supervise staff, guest researchers, volunteers. Conduct research, make presentation. Requires: 2 years of laboratory experience and research involving animal care plus degree. Send résumé by 2 August 1991 to: **S. Bergstrand, Seattle Personnel Department, 710-2nd Avenue, Suite 1200, Seattle, WA 98104.** Telephone: 206-684-7973. Affirmative Action/Equal Opportunity Employer.

PLAYFAIR NEUROSCIENCE UNIT THE TORONTO HOSPITAL RESEARCH SCIENTIST

The Playfair Neuroscience Unit is seeking a neurobiologist with research expertise in: signal transduction/cellular second messengers. Candidates with research interests focusing on ion channels, biochemistry of signal transduction, or molecular biophysics of ion channels are particularly encouraged to apply.

The Playfair Neuroscience Unit is a dynamic multidisciplinary unit comprising over 20 laboratories situated in a major teaching hospital of the University of Toronto, having close interactions with other major units throughout the university. Strong cell biology and immunology programs are also at this hospital. Successful candidates will have university appointments and are expected to develop long-term independent research programs. Apply before 1 September 1991. Send curriculum vitae, an outline of future research plans, and arrange for three letters of reference to be forwarded to: **Dr. Peter L. Carlen, Director, Playfair Neuroscience Unit, Toronto Western Hospital, 399 Bathurst Street, Toronto, Ontario, M5T 2S8, Canada.**

Both men and women are encouraged to apply. In accordance with Canadian immigration guidelines, priority will be given to Canadian citizens and landed immigrants.

RESEARCH SCIENTIST/IMMUNOLOGIST

The U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Microbiology Research Laboratory, Parasitology and Immunology Branch, Cincinnati, Ohio, has an immediate opening for a permanent full-time microbiologist (immunologist). Applicants should possess postgraduate training, education, and experience in the practices and techniques of microbiology with emphasis on the analytical and cellular methodologies of immunology. Applicants must also demonstrate skill in the use and application of immunoassays and immunoanalytical procedures to selectively capture or detect antigens. Experience in the preparation, purification, and assay of monoclonal and polyclonal antibodies is desirable. The incumbent will serve as a senior scientist in a research program directed toward developing and evaluating immunological assays for microorganisms, allergens, and other microbial products in air, water, soil, and food. Research problems include developing viability assays for pathogenic intestinal protozoa in water and the detection of allergens in indoor air samples. The U.S. Environmental Protection Agency-Cincinnati offers on-site day care and on-site wellness center. *Applicants must be U.S. citizens, and must meet U.S. Office of Personnel Management qualification requirements.* Salary will be based upon qualifications of candidate. Call **513-569-7840** or **513-569-7250** (hearing impaired) or send Application for Federal Employment (SF-171) or résumé by 15 August 1991 to: **U.S. Environmental Protection Agency, Human Resources Management Division (SP-04), 26 West Martin Luther King Drive, Cincinnati, OH 45268.** Equal Employment Opportunity Employer.

SCIENTISTS/SENIOR SCIENTIST

Mexican scientific and higher education institution close to the California, United States border, seeks specialist in aquaculture with background in genetics, reproduction, nutrition, or parasitology. Candidates should have interest in teaching and in pursuing an active research program involving graduate students. Ph.D. required. *Mexican citizens expecting to obtain their doctoral degree within the year may also apply.* Please send curriculum vitae, reprints, a statement of research interest, and three confidential letters of recommendation to: **Claudia Farfán, Head, Aquaculture Department, Centro de Investigación Científica y de Educación Superior de Ensenada, B.C. (CICESE), P.O. Box 434844, San Diego, CA 92143-4844.**

POSITIONS OPEN

RESEARCH PHYSICAL SCIENTIST. GS/GM-1301-12/13. U.S. Department of Agriculture (USDA) Forest Service, Southern Forest Experiment Station, Institute of Tropical Forestry, Rio Piedras, Puerto Rico. Develop study plans for analyzing atmospheric inputs to the Luquillo Experimental Forest and other tropical forests in Central and South America; plan and prepare quantitative analyses of clouds and rainwater; quantify dry and wet deposition of materials to forested ecosystems; measure and model exchanges of mass, heat, and chemical constituents between atmosphere and forest (or other vegetation); perform studies of trace gas exchange and nutrient loading to vegetation; perform related studies on mountainous terrain and tropical/subtropical ecosystems; and coordinate a network of sites throughout the tropics. Salary: \$37,294 to \$44,348 per year. Contact: **Ariel E. Lugo, 809-766-5335, or Robert P. Schultz, 504-589-6701.** The USDA is an Equal Employment Opportunity Employer.

RESEARCH ASSOCIATE

The Department of Rehabilitation Medicine, Jefferson Medical College, Thomas Jefferson University, seeks a Ph.D. level neuroanatomist/physiologist with an interest in spinal cord contusion to conduct research in the animal laboratory of an existing federally funded spinal cord injury center, devoted to the investigation of neural recovery and functional enhancement. The individual hired will perform research to determine the course of recovery after spinal cord contusion using physiological and histological procedures. Other responsibilities will include the occasional teaching to medical students, residents and allied health professionals. To apply send curriculum vitae and the names and telephone numbers of three referees to: **G. J. Herbison, M.D., 1015 Walnut Street, Room 617 Curtis Building, Jefferson Medical College, Thomas Jefferson University, Philadelphia, PA 19107.** An Equal Opportunity Employer.

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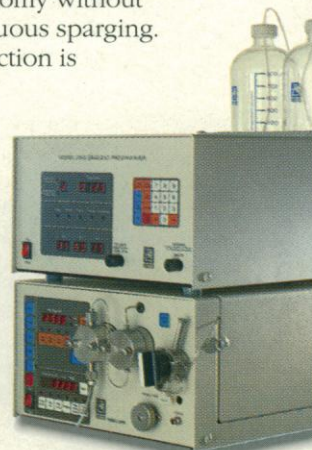
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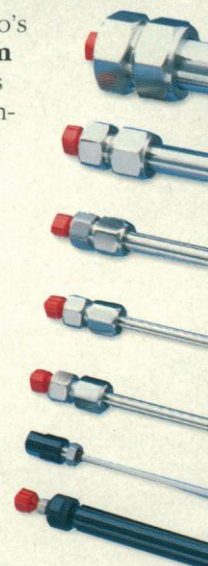
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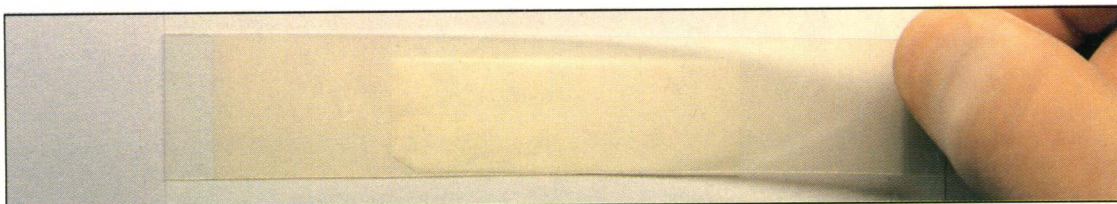
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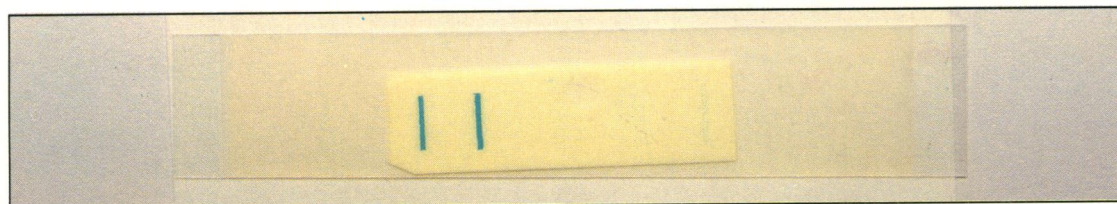
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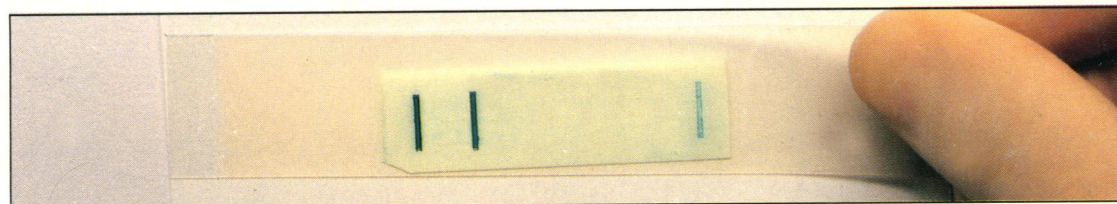
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