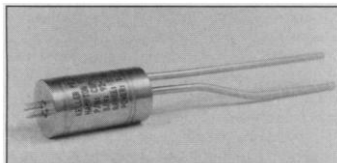


Fast DNA Synthesis Reagents

Expedite reagents can speed up DNA production and improve the quality of the DNA through a new base-protecting group, tert-butylphenoxyacetyl (tBPA). This new protecting group is stable in the reaction conditions used in synthesis but very labile to the ammonium hydroxide used in deprotection. The result is dramatically shortened deprotection times—only 15 min at 55°C or 2 hours at room temperature. Expedite reagents are compatible with many synthesis chemistries. **Millipore. Circle 90.**

Cryogenic Pressure Sensors

The Series 400 pressure sensors for measuring gas and liquid pressures at temperatures down to 1.5 K (−272°C) can be installed and submerged within cryogenic systems. The small units offer low hysteresis, linearity, repeat-



ability, and low pressure dissipation (<6 mV). The sensors are available as absolute or differential devices in pressure ranges from 0 to 1 psi through 0 to 500 psi. Electrical connections are hermetically sealed for reliable performance in hostile environments. **Keller-PSI. Circle 91.**

Affinity Chromatography Beads

3M EMPHAZE Brand activated affinity chromatography beads feature a new biosupport technology based on pre-activated beads composed of hydrophilic, cross-linked bis-acrylamide/azlactone copolymer. The rigid bead architecture provides higher surface area and pore volume than conventional supports, resulting

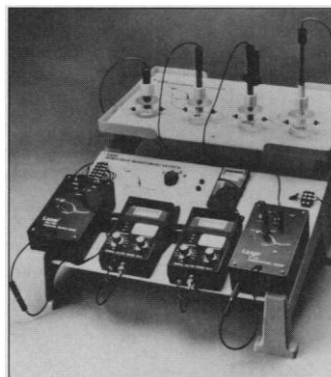
in higher binding capacity, higher flow rates, and overall superior performance in affinity chromatography applications. The new EMPHAZE beads allow researchers to couple very high yields of protein in less than 1 hour. The 60- μ m diameter beads can withstand 100 psi and provide flow-through rates of 3000 cm/hour. **Pierce Chemical Co. Circle 92.**

Near-IR FT-Raman Spectrometer

The System 2000R near-infrared (IR) Fourier transform (FT)–Raman spectrometer combines the complementary techniques of Raman and infrared spectroscopy to enhance routine analysis of solids, liquids, powders, and gels, including stressed polymers, pharmaceutical tablets, and pharmaceutical polymorphs. Gold-coated mirrors, wide angle (f/0.6) collection optics, high-throughput Rayleigh rejection filters, a proprietary design, and stabilized laser power output combine for powerful Raman sensitivity. The large sample compartment and x-, y-, and z-adjustments provide maximum flexibility for sample size and cell dimension. Excitation at 90° or 180°, a polarized laser with a line-width of 0.05 cm^{-1} , and power input of 0 to 3 W provide the versatility to measure all sample types at resolutions up to 0.2 cm^{-1} . **Perkin-Elmer. Circle 93.**

Micro Flow-Through Sensors

A series of biocompatible micro flow-through electrodes for whole organ or tissue slice perfusion studies include modules for pH, pO_2 , pCO_2 , and temperature. The probes offer a cost-effective modular approach to real-time monitoring. The four sensors are also



available as a complete system (Model PFS-2). The system offers a console to organize all sensing modules, a flow-through cell tray to simplify plumbing, a digital real-time monitor and channel selector for independent monitoring of each parameter, and an output connector for direct hookup to a strip chart recorder. All components are completely biocompatible and resistant to protein buildup and clogging. **Lazar Research Labs. Circle 94.**

Amino Acid Database

The Brandon Amino Acid and Peptide Database contains information on more than 7300 commercially available amino acids, their derivatives, and peptides and provides physical and chemical data on all classes of amino acids, natural and unnatural. The database includes information such as CAS number, empirical formula, optical rotation, literature references, and special properties. **Brandon Associates. Circle 95.**

Rotary Evaporator

This rotary evaporator eliminates rotary seals and water baths. A powerful magnetic drive rotates a wafer-thin clear Teflon cylinder within a wide-mouth evaporator flask, effecting rapid evaporation

by developing a thin solvent film on both the inner and outer surfaces of the cylinder, which is heated by a built-in infrared hot plate. On completion of the evaporation process, the heater is turned off and the wide-mouth cap on the evaporator flask is removed to provide easy access to the concentrate or dried product. Solvents contact only Teflon and borosilicate glass, protecting product integrity. Volumes from 50 ml to 1 liter can be processed with speed and convenience. **Manostat Corp. Circle 96.**

Literature

Life Science Research Products 1993 provides 382 pages of products for chromatography, high-performance liquid chromatography, electrophoresis, immunochemistry, molecular biology, and liquid handling. New products and applications data are highlighted. **Bio-Rad Labs. Circle 97.**

Endothelial Adhesion Molecules is a poster that details the steps involved in the inflammatory adhesion mechanism: the generation of inflammatory signals, the capture and rolling of leukocytes, and the activation and flattening of leukocytes followed by extravasation into the surrounding tissue. **British Bio-technology Products. Circle 98.**

ZabSpec is a 6-page specification note that describes a magnetic sector mass spectrometer with a high mass range and resolution combination and an exclusive tri-sector double focusing geometry. *AutoSpec* is a specification note that describes a high-sensitivity, high-resolution magnetic sector mass spectrometer with a similar geometry. **Fisons Instruments. Circle 99.**

The Resonance Reports are technical bulletins that provide information on procedures and problems in nuclear magnetic resonance sample preparation and analysis. **Wilma Glass Co. Circle 100.**

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.

Science

PERSONNEL PLACEMENT

LINE CLASSIFIED ADVERTISEMENTS

- **Deadlines:** Ads are due by Thursday, 10 a.m., 2 weeks prior to the issue date. *Science* is published each Friday, except the last Friday of the year. Call for holiday deadlines. Advertisements must be submitted in writing.
- **How to Submit a Classified Ad:** Prepare double-spaced typewritten copy. Do not include any abbreviations. *Science* will edit and typeset ads according to *Science* guidelines. Include billing information, and desired publication date. Available categories: Positions Open, Meetings, Announcements, Courses and Training.
- **Mail or FAX materials to:**
Science Classified Advertising
1333 H Street, N.W., Room 814
Washington, DC 20005
Telephone: 202-326-6555
FAX: 202-682-0816
- **Rates:** Ads are \$42 per line; \$420 minimum. One line equals 52 characters and spaces; centered headings equal 32 characters and spaces. A 3% cash discount is granted to all prepaid ads.
- **Ads from Outside the U.S.:** A discount of \$30 will be offered to advertisers making payment in U.S. dollars by checks drawn on U.S. banks. Contact Annemarie Vis at +44 223 424695 (24-hour FAX and phone).
- **Credit Cards:** *Science* accepts MasterCard and VISA. Discount does not apply to credit cards.
- **Cancellations:** Deadline for cancellation is 10 a.m., Tuesday, 10 days prior to issue date.

DISPLAY PERSONNEL ADVERTISEMENTS

For rates and info. about fractional display ads (all ads 1/2 page and larger), contact:

Recruitment Advertising
Deborah Cummings
Telephone: 202-326-6541

Janis Crowley, Recruitment
Advertising Manager
Telephone: 212-496-7704
FAX: 202-682-0816

Annemarie Vis
European Recruitment Advertising
+44 223 424695
(24-hour FAX and phone)

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, handicap or sexual preference. The AAAS encourages employers to actively recruit and employ underrepresented minority groups. *Science* reserves the right, at its discretion, to decline to publish advertisements submitted to it.

POSITIONS OPEN

TEACHING POSITION—Ecologist/Environmental Scientist. The Department of Biology, Emory University, invites applications for a teaching position at the **ASSISTANT PROFESSOR** rank for a non-tenure-track, 1-year term beginning in September 1993, with a possibility of renewal for up to 3 years. The successful applicant should have training in community or ecosystem ecology, innovative interdisciplinary approaches in teaching environmental studies, and evidence of excellent teaching. The position is assigned to the Human and Natural Ecology Program where responsibilities include teaching introductory and advanced courses in environmental science and ecology, advising students and some administration. Send curriculum vitae, a statement on your experience and interests in teaching, and have three letters of recommendation sent to: **Dr. Harvey L. Ragsdale, Human and Natural Ecology Program, Emory University, Atlanta, GA 30322.** Review of applications will begin immediately and the position will remain open until filled. *Emory is an Equal Opportunity/Affirmative Action Employer.*



The University of Zürich, Switzerland, invites applications for the tenured position of a **RESEARCH PROFESSOR OF PSYCHIATRY.**

The position will be available in April 1994. The professor will be the head of the Research Division of the Psychiatric University Hospital. Applicants should have an outstanding, internationally competitive research record. Preference will be given to candidates engaged in biological psychiatry.

Applications are to be sent before 15 June 1993 to: **Chairman of the Search Committee, Professor A. Borbély, Institute of Pharmacology, University of Zürich, Gloriastrasse 32, CH-8006 Zürich, Switzerland; FAX +41-1-261-5684.** Applicants are asked to first request instructions for the format of the application from: **Medizinisches Dekanat, Universität Zürich, Gloriastrasse 23, CH-8091 Zürich, FAX +41-1-255-4565.**

VISITING ASSISTANT PROFESSOR GENETICS/DEVELOPMENTAL BIOLOGY/ CELL BIOLOGY

The Department of Biology at Wake Forest University invites applications for a non-tenure-track position beginning fall 1993. Responsibilities will include teaching upper-level undergraduate courses in developmental biology and genetics, and a core course in cell biology (two courses per semester). Opportunities for collaborative research exist in cell and molecular biology, ecology and evolution, behavior and physiology, and plant science. Send résumé, a statement of teaching goals and research interests, and three letters of reference by May 31, 1993, to: **Dr. William E. Conner, Chair, Department of Biology, Wake Forest University, P.O. Box 7325 Reynolda Station, Winston-Salem, NC 27109.** *Wake Forest University is an Equal Opportunity Employer and encourages applications from women and minorities.*

Department of Neurosurgery and Brain Tumor Research Center, University of California, San Francisco, seek **ASSISTANT PROFESSOR**-level B.C./B.E. neurosurgeon with skills to develop independent research program in neuro-oncology with emphasis on nervous system development and the evaluation of novel therapeutic approaches, especially using genetic therapies. Candidates should be trained in molecular technology and interested in developmental neurobiology and virology. Research interests should include development of new strategies for gene therapy.

Physician must be familiar with design and conduct of clinical research trials, including phase I, II, and III, and have experience or training in managing such patients. Physician will actively participate in design of new studies, in preparing new clinical protocols and grant proposals, as well as in teaching of residents and postdoctoral fellows. *Equal Opportunity/Affirmative Action Employer. Applications from women and minorities are encouraged.* Curriculum vitae to: **Charles B. Wilson, M.D., Department of Neurosurgery, UCSF, Box 0112, 505 Parnassus Avenue, San Francisco, CA 94143.**

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR. Excellent opportunity for a molecular biologist interested in the biology of cancer (tumor suppressor genes, metastases, angiogenesis, growth). Please send curriculum vitae, statement of research plans, and names of three references to: **M. E. Stearns, Ph.D., Vice Chairman, Medical College of Pennsylvania, 2900 Queen Lane, Philadelphia, PA 19129.**

The University of Ottawa is expanding its research activity in the field of molecular neuroscience, to be housed in a new Institute. Applications are invited at the **ASSISTANT/ASSOCIATE PROFESSOR** level. The successful applicants will be interested in investigating the molecular mechanisms relevant to neurodegeneration and selective vulnerability and those that promote neuronal survival. *In accordance with Canadian immigration requirements, this advertisement is directed primarily to Canadian citizens and permanent residents.* Ottawa is an attractive city which offers excellent cultural activities, schools and recreational facilities. Please send application to: **Dr. A. Hakim, University of Ottawa, Neurosciences and Molecular Genetics Institute, 451 Smyth Road, Ottawa, Ontario, K1H 8M5.**

The Department of Orthopaedic Surgery of the University of Pennsylvania School of Medicine is seeking candidates with a Ph.D. in Molecular Biology for a full-time position as **RESEARCH ASSISTANT PROFESSOR** (non-tenure). Must have experience in applying the techniques of molecular biology to the study of osteogenesis in general, with specific emphasis on Fibrodysplasia Ossificans Progressiva. Selected candidate will be expected to develop an independent, externally funded research program in normal and abnormal bone formation in man. Submit curriculum vitae and a brief statement of research interests to: **Director, McKay Laboratory, 424 Stemmler Hall, 37th and Hamilton Walk, Philadelphia, PA 19104-6081.**

An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR (Rank I-3) or ASSOCIATE PROFESSOR (Rank I-4). The Department of Microbiology at the University of Hawaii expects to make a tenure-track, 9-month faculty appointment, **Position Number 82168**, beginning January 1, 1994, or August 1, 1994, pending position clearance and funding availability. **Duties:** teach annually an undergraduate course in microbiology; teach annually an upper-level undergraduate course in cell biology in the Biology Program for which command of eukaryotic cell biology is essential. On alternate years teach a graduate course in the area of specialization. Establish a research program in the department and participate in departmental and university service. **Minimum qualifications:** for Assistant Professor: Microbiology doctorate or closely related field, research publications, postdoctoral experience, likelihood of obtaining extramural research funds; experience in prokaryotic cell biology and molecular biology, and in immunology or the pathogenesis of infectious diseases. In addition, Associate Professor requires at least four years as an assistant professor or equivalent experience. Assistant and Associate Professors' salary ranges are currently \$34,644 to \$51,264 and \$43,824 to \$64,872, respectively. To apply send letter with a statement of research interests, résumé and names of 3 references to: **Dr. L. R. Berger, Chair, Department of Microbiology, University of Hawaii, 2538 The Mall, Honolulu, HI 96822 or FAX: 808-956-5339.** Closing date: June 1, 1993. *University of Hawaii is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR. IMMUNOLOGY/MICROBIOLOGY. The Microbiology Department of Midwestern University invites applications for a tenure-track position. A Ph.D., two years of postdoctoral experience or equivalent, and strong commitment to teaching are required. Team-teaching responsibilities are in the Colleges of Osteopathic Medicine, Pharmacy and Allied Health Professions. Preference given to those having previous teaching experience and research interests in cellular immunology or immunologic aspects of microbial pathogenesis. Send curriculum vitae, a statement of teaching experience and research interests and names of three references to: **Dr. J. R. Burdick, Department of Microbiology, Midwestern University, 555 31st Street, Downers Grove, IL 60515.**

Research And Postdoctoral Opportunities In Molecular Biology.

Listed below are a few of the outstanding opportunities for conducting research that are now available with leading scientists at the National Institutes of Health.

Signal Transduction and Gene Expression During Aging **George S. Roth, PhD**

Senior Staff Fellow (assistant professor equivalent) and postdoctoral positions are available to study G-protein coupled signal transduction during aging. Particular emphasis is placed on the D₂ dopamine receptor and regulation of the receptor gene expression. Adrenergic and cholinergic systems are also under investigation. Applicants should be US citizens or permanent residents with experience in molecular biological techniques. Laboratory of Cellular and Molecular Biology (OE-32), NIA, Francis Scott Key Medical Center, GRC Building, Room 4E19, Baltimore, MD 21224.

Computational Molecular Biology **Mark Boguski, MD, PhD**

The accumulation of partial cDNA sequences (Expressed Sequence Tags or EST) now provides a rich source of information for discovering new genes, studying patterns of expression in tissue differentiation and development, and molecular evolutionary studies. The position also involves some responsibility for management of an EST database. National Center for Biotechnology Information (OE-32), NLM, 8600 Rockville Pike, Building 38A, Room 8S-810, Bethesda, MD 20894.

Hepadnavirus Molecular Biology **Roger H. Miller, PhD**

Studies on hepatitis B and woodchuck hepatitis virus gene expression and replication focus on the establishment of chronic infection and the development of hepatocellular carcinoma. Site-directed mutagenesis of infectious recombinant viruses is used for mapping genes and cis-acting elements involved in these disease processes. Experience in molecular biology is required. Laboratory of Infectious Diseases (OE-32), NIAID, Building 7, Room 201.

Human Gene Therapy **Richard A. Morgan, PhD**

Improved viral vectors are being developed for use in human gene therapy for treatment of hemophilia and human retroviral diseases. Candidates should have experience in molecular biology, retrovirology, and/or cell biology. Molecular Hematology Branch (OE-32), NHLBI, Building 10, Room 7D18.

Molecular Biology, Development and Evolution **Graeme Wistow, PhD**

The eye lens is a fascinating system for studying mechanisms in tissue-specific gene expression, development, differentiation and molecular evolution. Current work focuses on the molecular mechanisms of crystallin gene recruitment and lens-specific expression and

on growth factors and lymphokines associated with lens cell differentiation. Experience in molecular biology is required. Laboratory of Molecular and Developmental Biology (OE-32), Building 6, Room 222.

Molecular Biology and Pharmacology of Receptors **Jürgen Wess, PhD**

Two positions are available to study the molecular mechanisms governing the function, regulation, and intracellular trafficking of muscarinic acetylcholine and other G protein-coupled receptors. Background in molecular biology, cell biology, biochemistry, or molecular modeling is desirable. Applicants must have less than five years of postdoctoral experience. Laboratory of Bioorganic Chemistry (OE-32), NIDDK, Building 8A, Room B1A09.

Trans-Dominant Transcription Factors **Charles Vinson, PhD**

The structural properties of the bZIP class of DNA binding proteins are being studied using physical and molecular methods to better understand dimerization specificity. bZIP mutants have been designed that are capable of forming heterodimers with wild type bZIP proteins, thereby inactivating wild type protein function *in vitro*. These proteins are being used *in vivo* to examine the inhibition of cellular differentiation. Laboratory of Biochemistry (OE-32), NCI, Building 37, Room 4D06.

Additional Postdoctoral Fellowship Opportunities

For an on-line listing of additional postdoctoral openings you may access the NIH EDNET Bulletin Board's POSTDOC conference via modem (1,3014922221 or 1,8003582221). The settings for modem access are "7,Even,1". When connected to NIH, type in "vt100" at the connect message, "F5E" at initial, and "AJL1" at account.

A catalog describing NIH research opportunities may be accessed via the network-based (Internet) Gopher Information System. To access the NIH Gopher server, Gopher client software (available via anonymous ftp "boombox.micro.umn.edu") must be running on your computer and configured to point to "gopher.nih.gov", port "70". Select NIH Information to reveal the NIH Office of Education directory. Those interested in receiving information on other postdoctoral opportunities, clinical training opportunities, or accessing Gopher may contact the Office of Education, Building 10, Room 1C129. Phone: 301-496-2427.

To Apply

If you hold a graduate doctoral degree (e.g., PhD, MD/PhD) or a professional degree (e.g., MD, DO, DDS, or DVM) accompanied by previous laboratory research experience and would like to be considered for one of these positions, please send a cover letter, *curriculum vitae*, bibliography, and statement of research interests to the address listed with each position. In addition, please arrange to have letters of recommendation sent from three scientists who can provide an evaluation of your qualifications.



National Institutes Of Health

9000 Rockville Pike, Bethesda, MD 20892

Equal Opportunity Employer

POSITIONS OPEN

MOLECULAR BIOLOGIST/ CELL BIOLOGIST

The Specialized Center of Research on Arteriosclerosis in the Department of Medicine at the University of California, San Diego, seeks qualified Ph.D. candidates for an **ASSISTANT PROFESSORSHIP** in Residence. Previous experience in transgenic mouse research desirable. Will join a program directed at identifying genes involved in the atherogenic process. Submit curriculum vitae and names and addresses of three references to: **Daniel Steinberg, M.D., Ph.D., Director, Specialized Center of Research on Arteriosclerosis, UCSD Department of Medicine, 0682, La Jolla, CA 92093-0682. UCSD is an Equal Opportunity/Affirmative Action Employer.**

HARVARD MEDICAL SCHOOL MASSACHUSETTS GENERAL HOSPITAL DEPARTMENT OF SURGERY

The Harvard Medical School and the Massachusetts General Hospital Department of Surgery are seeking a tenured **FULL PROFESSOR** whose primary research interest is in biotechnology and bioengineering. It is important that the individual's capabilities are interdisciplinary and that he/she has significant skills in molecular and cellular biology. The appointee will also hold an appointment in the Harvard-MIT Division of Health Sciences and Technology. Teaching responsibilities will include the training of graduate students and postdoctoral and surgical research fellows.

Applicants are invited to send curriculum vitae to:

**W. Gerald Austen, M.D.
Department of Surgery
Massachusetts General Hospital
White Building, Room 506
Boston, MA 02114**

Harvard Medical School and Massachusetts General Hospital are Affirmative Action/Equal Opportunity Employers.

Tenure-track **ASSISTANT PROFESSOR** position available in active and expanding neuroscience research division. Experience in modern neuroanatomy is sought, with expertise in electron microscopy and immunohistochemistry highly desirable. Ph.D. or equivalent with postdoctoral experience required. Very light teaching and administrative duties. Primary responsibility is to set up an externally funded, self-supporting research program and interact with other members of the university neuroscience community. Interests of current faculty revolve around functions of brainstem transmitter systems, especially as relevant to attention, stress, drug abuse and mental health. Excellent salary, benefits, start-up funds and lab space are available. Send curriculum vitae with names of three references to: **Gary Aston-Jones, Ph.D., Director, Division of Behavioral Neurobiology, Department of Mental Health Sciences, M.S. 403, Hahnemann University, Broad and Vine, Philadelphia, PA 19102.**

MOLECULAR IMMUNOLOGIST

At the University of Arizona Health Sciences Center. The position is tenure-track at the level of **ASSISTANT PROFESSOR** or **ASSOCIATE PROFESSOR** with an appointment in the Department of Microbiology and Immunology and at the Arizona Cancer Center. Applicants should have a Ph.D. or M.D. and have demonstrated expertise in the field. The successful candidate will be expected to develop an independent, competitive research program in cancer-related immunology and have an interest in the application of state-of-the-art immunological techniques to clinical problems. *Women and minorities are encouraged to apply.*

Submit curriculum vitae and 3 letters of recommendation to: **Dr. John J. Marchalonis, Professor and Chairman, Microbiology and Immunology, Arizona Health Sciences Center, Tucson, AZ 85724.** Applications will begin to be considered July 1, 1993, until the position is filled. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer.*

UT SOUTHWESTERN MEDICAL SCHOOL ASSISTANT INSTRUCTOR OF MICROBIOLOGY

Candidate should have teaching experience and established expertise in Molecular Biology to study molecular mechanisms underlying cancer dormancy (see *PNAS*, 90, 1829, 1993). Send curriculum vitae, 3 references, and statement of research plans to: **J. W. Uhr, M.D., Department of Microbiology, UT Southwestern Medical Center, 5323 Harry Hines, Dallas, TX 75235-9048. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

DIRECTOR IOWA INSTITUTE OF HYDRAULIC RESEARCH

The University of Iowa's College of Engineering invites applications and nominations for Director of the Iowa Institute of Hydraulic Research (IIHR). This search is continued under new College administration and a new search committee. The IIHR staff currently comprises fifteen research engineers with joint appointments in IIHR and academic departments; six full-time engineers; approximately forty-five graduate students who are candidates for advanced degrees; seven postdoctorals; and a support staff numbering in excess of fifteen. IIHR maintains extensive state-of-the-art laboratories, computer and instrumentation systems, mechanical and instrumentation shops, and auxiliary equipment for conduct of a broad spectrum of basic and applied fluids-related research. Current research activities are centered in hydraulic engineering, fluid mechanics, hydrology, hydrometeorology, ice and arctic engineering, river mechanics, ship hydrodynamics, and computational hydraulics and fluid mechanics.

The Director's responsibilities include: directing and coordinating of IIHR's activities; attracting external funding for support of research and engineering services; recruiting high-quality domestic and international graduate students; maintaining close working relations with IIHR's sponsors; representing the broad spectrum of IIHR activities to universities, state, national, and international constituencies; and conducting research and teaching courses.

Qualifications should include demonstrated, or strong potential for, visionary research leadership and administration; an international reputation in one or more of the fields of IIHR's endeavors; a distinguished record of funded engineering research and development of collaborative research ventures; and awareness of the broad responsibilities of a major research institute in a university. The successful candidate must have credentials that qualify him or her for a faculty position in the UI College of Engineering.

Salary will be commensurate with qualifications and experience. Applications will be accepted until the position is filled. Send complete résumé, including list of publications and names and addresses of three references to: **Chairman, Search Committee for Director, Iowa Institute of Hydraulic Research, The University of Iowa, Iowa City, IA 52242-1585.** All applications will be given serious consideration and will be kept confidential. *The University of Iowa is an Equal Opportunity/Affirmative Action Employer. Female and minority candidates are strongly encouraged to apply.*

CYTOGENETICS LABORATORY DIRECTOR—The Department of Pathology at Dartmouth-Hitchcock Medical Center is seeking a full-time board-certified/eligible M.D. or Ph.D. cytogeneticist to direct a clinical service laboratory. Candidates should be experienced in the cytogenetics of all tissue types and the use of modern banding techniques and molecular cytogenetics. The laboratory serves 800 to 900 patients a year. Research involvement will be encouraged. Faculty rank at Dartmouth Medical School will be commensurate with experience. Applicants should send curriculum vitae, statement of research interests, and names of three references as soon as possible to: **Walter W. Noll, M.D., Department of Pathology, Dartmouth-Hitchcock Medical Center, Lebanon, NH 03756. Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION IN STS WITH CONCENTRATION IN ENVIRONMENTAL STUDIES. Tenure-track position beginning September 1993. Rank: **ASSISTANT** or **ASSOCIATE PROFESSOR**. Ph.D. or equivalent degree required. Teaching experience preferred and commitment to liberal education essential. Experience in conservation biology or related field preferred. Responsibilities include teaching and developing courses for non-majors in the area of environmental studies and in the social and ethical questions relating to science, technology, and society. Send letter of application, résumé, and request that three letters of recommendation be forwarded to: **Professor Fred L. Wilson, College of Liberal Arts, Rochester Institute of Technology, 92 Lomb Memorial Drive, Rochester, NY 14623-5604.** Cutoff date for receipt of applications is June 15, 1993. *RIIT is an Equal Opportunity/Affirmative Action Employer looking for individuals with an ability to contribute in meaningful ways to the Institute's commitment to cultural diversity and pluralism.*

POSITIONS OPEN

INFECTIOUS DISEASE EPIDEMIOLOGIST: The **TULANE SCHOOL OF PUBLIC HEALTH AND TROPICAL MEDICINE** invites applications for the Joseph Slemmon Copes **CHAIR** (tenure-track) in Infectious Disease Epidemiology. Qualifications: demonstrated excellence in research and teaching in one or more areas of infectious diseases. Duties: research, teaching and development of a program of infectious disease epidemiology. Established research programs within the Tulane Medical Center complex provide opportunities for collaboration. Send nominations or application (including curriculum vitae, statement of research goals, current funding and three letters of reference) to: **Frances J. Mather, Ph.D., Search Chair, Department of Biostatistics and Epidemiology, School of Public Health and Tropical Medicine, Tulane University, 1430 Tulane Avenue, New Orleans, LA 70112 by June 1, 1993. Tulane University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.**

MEDICAL DIRECTOR OF CLINICAL RESEARCH AND DEVELOPMENT DRUG DELIVERY SYSTEMS

ALZA, a manufacturer of innovative drug delivery systems, currently requires a Medical Director of Clinical Research and Development—Drug Delivery Systems. Primary responsibility entails the leading and management of a group of 20 to 25 Clinical Scientists, Physicians, Dentists, and administrative staff. You will be responsible for the design and execution of clinical development plans leading to successful international product registrations. Entails the duties and responsibilities of organizing and leading the entire process and procedures relevant to successfully identify, test and select new product candidates in drug delivery systems. Further requires the responsibility of assuring compliance with all applicable regulatory requirements, including but not limited to: Good Clinical Practices, Good Laboratory Practices and Good Manufacturing Practices. Must function as Chair for the Clinical Trials Board and Product Selection Committee; must be able to provide management between clinical R&D and other groups to assure provision of clinical support information as well as function as medical monitor for all study protocols; must be able to prepare comprehensive Standard Operating Procedures for application to clinical R&D; must further provide senior medical representation at interested regulatory agencies, including but not limited to the Food and Drug Administration; must have the ability to prioritize activities within the group and be able to allocate resources to projects/programs; additionally, must be able to provide guidance to development of personnel within the group. Requires a minimum of an M.D. Degree as well as a minimum of 5 years of broad-based clinical experience, including exposure to Internal Medicine, Dermatology, Cardiology, Respiratory Medicine, Neurology, Psychiatry, Obstetrics, Gynecology, Family Planning, and Primary Health Care. Further requires Board Certification, or its equivalent, in at least two of the above areas. A minimum of 5 years of experience in Clinical R&D Program Management in the international arena, including a proven track record of successful international regulatory submissions and registrations of NCE's (New Chemical Entities) are required as well. Must possess a minimum of 5 years of line management experience associated with a demonstrated track record of both career development and motivation of others. Must possess scientific skills which are clearly evidenced by demonstrated scientific achievement and also successful liaison between international medical and scientific communities is imperative. Excellent English-speaking communication skills (oral, written, listening, reading), demonstrated organization skills, and proven teamwork approach to professional duties and responsibilities are all essential qualifications. The salary range for this position will be \$135,000 to \$148,000 per year depending on background and experience. Résumé must be attended by three written references. Responses must be postmarked no later than May 15, 1993, to be considered. *If offered employment, you must show you have the legal right to work in the United States.* For immediate consideration, please send your résumé to: **ALZA, Employment #S, 950 Page Mill Road, P.O. Box 10950, Palo Alto, CA 94303-0802. We are pleased to be an Equal Opportunity Employer.**

CHAIRPERSON, DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS

The University of Cincinnati College of Medicine announces the opening of the Chair of the Department of Physiology and Biophysics. The College of Medicine ranks among the top 30 colleges of medicine nationally in grant holdings and has significant interdisciplinary areas of distinction particularly in cell and molecular biology and cardiovascular research. The Department has a long history of excellence in education, training and basic research and the 15 full-time faculty are well supported by extramural grants.

We seek qualified candidates with demonstrated abilities in research, leadership and administration and a strong commitment to teaching. Increased support and growth within the department are expected. Applications from outstanding individuals in any area of physiology and biophysics are welcomed. Individuals able to take advantage of the University's significant investments in the transgenic and gene targeting technologies are particularly encouraged to apply. Applications and nominations are welcomed. Interested individuals should submit a curriculum vitae and the names of three references to:

Jeffrey Robbins,
Chair, Search Committee
Dept. of Pharmacology
& Cell Biophysics
University of Cincinnati
Cincinnati, OH 45267-0575



The University of Cincinnati is an Affirmative Action/Equal Opportunity Employer. Women, minorities, disabled persons, Vietnam era and disabled veterans are encouraged to apply. The UC Medical Center is a smoke-free work environment.

Staff Scientist San Francisco Bay Area

ALZA is a leading drug delivery systems company focused on the development, manufacture and marketing of proprietary pharmaceutical products. Join ALZA and push the limits of pharmaceutical success.

You will design/execute experiments to study the correlation between various physicochemical parameters and the extent of peptide transport across GI mucosa. Along with a PhD in Biochemistry/Biophysics, the ideal candidate must have a strong working knowledge of physical and organic chemistry, combined with 0-2 years' postgraduate experience in peptide chemistry or biophysics of micelles. Familiarity with cellular uptake and transport mechanisms, analysis of structure-activity relationships, and mammalian cell culture is a plus.

To push beyond the limits of excellence, send your resume to ALZA, Human Resources, 950 Page Mill Road, P.O. Box 58090, Palo Alto, CA 94303-0802. FAX (415) 494-5151. We are pleased to be an equal opportunity employer and encourage applications from qualified persons with disabilities.

alza

Opportunities for BS/MS Scientists at Pfizer

Pfizer, a U.S. based multinational pharmaceutical company, has several immediate openings for Research Assistants in its expanding Central Research Division Laboratories located in Groton, Connecticut.

Diabetes Research

Currently, we are seeking two assistants to perform experiments to examine glucose metabolism, insulin action and/or insulin secretion in research projects directed toward the discovery of novel anti-diabetic drugs. Responsibilities include biochemical analysis of tissues and cells for metabolic substrates and enzymes, radioisotopic determination of glucose metabolism, radio-immunoassays, protein purification and analysis, and determination of hormone receptor binding and intracellular signal transduction.

Expertise in subcellular fractionation and chromatographic techniques, cell isolation, radioisotopic techniques, maintenance of tissue culture cell lines, protein analysis by SDS-polyacrylamide gel electrophoresis and immunoblotting, tissue RNA isolation and analysis, and *in vivo* modeling is desirable. **Code EBDR**

Laboratory Toxicology

As a member of the Drug Safety Evaluation Department, you will be involved in defining mechanisms of toxicity as part of new drug development and testing. You will be using a variety of methods in whole animal physiology directed toward assessing the function of several organ systems. This position requires a BS/MS in physiology, biomedical engineering or a related discipline. Experience should include surgery and use of *in vivo* models. Familiarity with computerized data acquisition and analysis systems is desirable. **Code KHLT**

Behavioral Pharmacology

The primary responsibility of this position is to conduct experiments examining the effects of drugs on schedule-controlled behavior in laboratory animals. Familiarity with operant techniques including drug discrimination, as well as relevant surgical and computer skills, are preferred. **Code KGBP**

In addition to a stimulating research environment, we offer a competitive compensation and benefits package, including generous relocation assistance to this southeastern Connecticut shoreline community. Qualified applicants may send a resume and cover letter, indicating appropriate code on outside of envelope, a description of your experience, and names of three references, to: **Employee Resources, Pfizer Inc, Central Research Division, Eastern Point Road, Groton, CT 06340.** We are an equal opportunity employer.



Central Research

Bringing science to life.

POSTDOCTORAL POSITIONS

Cell and Molecular Biology of Reproduction

Postdoctoral positions are available at the Worcester Foundation for Experimental Biology to study cellular and molecular aspects of reproduction. These positions are supported by an NIH training grant and individual investigator awards. The faculty and their research interests are:

Hagan Bayley, Ph.D. - Signal transduction in sperm and egg; molecular biology of ion channels.

Larry Dangott, Ph.D. - Mechanisms of sperm motility activation and chemotaxis; regulation of guanylyl cyclase/receptors.

Harvey Florman, Ph.D. - Regulation of sperm ion channels; mechanisms of exocytosis; zona pellucida structure and function.

Daniel Kilpatrick, Ph.D. - Regulation of spermatogenic cell development and differentiation at the transcriptional level; male germ cell-specific trans-acting factors.

José Lemos, Ph.D. - The role of second messengers in steroidogenesis in Leydig cells.

John McCracken, Ph.D. - Molecular and cellular mechanisms controlling the reproductive cycle.

Clare O'Connor, Ph.D. - Protein modifications during gametogenesis; mechanism of oocyte maturation.

George Witman, Ph.D. - Control of sperm motility; sperm maturation and hyperactivation.

David Wolf, Ph.D. - Biophysics of fertilization and the acrosome reaction in mammalian sperm.

The Worcester Foundation for Experimental Biology offers excellent facilities and a stimulating environment for postdoctoral study. The Foundation is a private, non-profit research institute, located on a 100-acre campus in Shrewsbury, Massachusetts, 35 miles west of Boston. Please send curriculum vitae and names of three references to the faculty member(s) of interest, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545, USA.

An Affirmative Action/Equal Opportunity Employer M/F/H



Worcester Foundation for Experimental Biology

ASSOCIATE VICE PRESIDENT FOR RESEARCH LOYOLA UNIVERSITY OF CHICAGO

Loyola University of Chicago invites applications or nominations for the position of Associate Vice President for Research. The Associate Vice President for Research will also serve as the Director of University Research Services. We seek candidates with an earned doctorate (M.D., Ph.D., etc.), outstanding academic credentials commensurate with a senior faculty member in a university department, previous experience in research administration, and a strong commitment to facilitating research and its development in a university setting.

The Associate Vice President for Research will be responsible for 1) the development, implementation, and supervision of policies governing the conduct of research and research programs throughout the University, 2) the coordination and management of research services offices and activities provided at Loyola's Lake Shore, Water Tower, and Medical Center Campuses, 3) serving as the representative and advocate for the research community by providing advice and consultation to the University administration, Deans, Academic Chairs, and Faculty that will enhance the University's research mission, 4) representing the University research community in matters pertinent to local, state, and federal research related issues, 5) working with Faculty and the University Development office to identify and facilitate opportunities for research funding, 6) overseeing the University Research Committee, safety committees, and all technology transfer activities. The Associate Vice President for Research reports jointly to the Senior Vice President and Dean of Faculties and to the Provost of the Medical Center.

Loyola University of Chicago, a private Jesuit institution, is composed of the College of Arts & Sciences, Mundelein College, and the Schools of Business, Education, Law, Medicine, Nursing, Social Work, and the Graduate School.

Please address all questions and nominations/applications with a current *Curriculum Vitae* by JULY 1, 1993 to: Dr. John X. Thomas, Jr.; Chair, Associate Vice President for Research Search Committee; Loyola University Medical Center; Room 0742; 2160 South First Avenue; Maywood, IL 60153; TX: 708-216-5840; FAX: 708-216-9433.

LOYOLA UNIVERSITY OF CHICAGO is an Equal Opportunity/Affirmative Action Educator and Employer

Amylin

Sr. Scientist Cellular Pharmacology

Amylin Pharmaceuticals, Inc. is a dynamic development stage pharmaceutical company working on new medicines for diabetes and related metabolic disorders.

The Pharmacology department has an opening in the group responsible for investigating peptide hormone signalling in isolated tissues and cells. As a senior research scientist you would be responsible for research on the cellular localization of receptors and the search for novel peptide hormones and encoding mRNA in various tissues. You would also participate in studies of cellular actions of peptide hormone agonists and antagonists.

Requirements include a Ph.D. in biochemistry, pharmacology or a related field, experience performing anatomical localization studies using in situ hybridization, immunohistochemistry and autoradiography techniques and a track record of scientific accomplishment demonstrated by quality publications. Background in cell signalling mechanisms is also preferred. Good communications skills and the ability to flourish as a team player in a fast-moving environment are important characteristics.

Amylin is located in San Diego, offering a stimulating work environment and a top-notch scientific community. In addition, we offer an excellent salary and benefits package including stock option participation. We have brought together an impressive team of people to make new medicines based on a major scientific breakthrough. If you would like to be a part of that team, please send your resume and salary history to: A. McGovern/R.P., Amylin Pharmaceuticals, Inc., 9373 Towne Centre Drive, San Diego, CA 92121.

Amylin is an Equal Opportunity Employer.



Senior Scientist

SCIOS NOVA INC., a biopharmaceutical company engaged in the discovery, development and commercialization of novel human therapeutics, is seeking a senior scientist to join the Pharmacology Division at our Baltimore location.

Scios Nova has focused its efforts in four areas of research and development: cardiovascular disease, inflammation, metabolic disorders and tissue repair. The successful candidate will be an integral member of a strong inflammation team, will participate in the research and development of novel anti-inflammatory therapeutics through evaluation of preclinical efficacy in experimental models, and will report directly to the Director of Pharmacology.

Requirements include a Ph.D. in Pharmacology (or related biological science) plus 3-5 years' relevant experience. The candidate should have excellent oral and written communication skills and be an active member of the scientific community.

SCIOS NOVA INC. offers a competitive salary and benefits package which includes company-paid health, life and dental insurance; prescription plan; 401(k) savings plan with a company matching provision; and relocation.

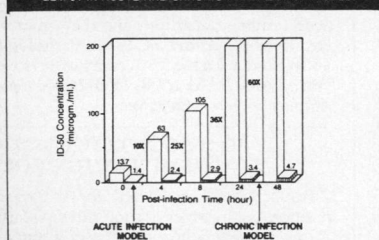
For immediate consideration, please mail your curriculum vitae with salary history to: **SCIOS NOVA INC., Personnel-BTO 92-041, 6200 Freeport Centre, Baltimore, MD 21224-6522.**

Scios Nova is an equal opportunity employer offering a smoke-free work environment.



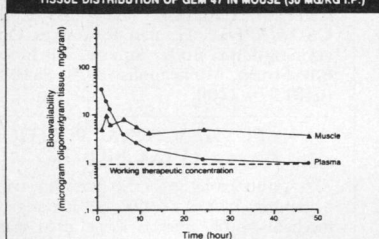
Hybridon

GEM 91 IN ACUTE AND CHRONIC HIV INFECTION MODEL



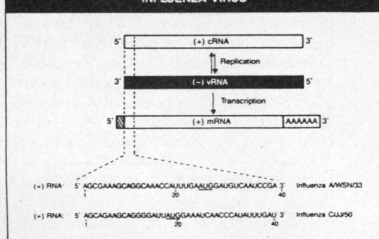
Comparative inhibition of HIV replication by an unmodified oligonucleotide (solid bars), and an oligonucleotide having modified sugar-phosphate backbone, a phosphorothioate. The inhibition of HIV by the phosphorothioate is definitive, proving that the modified oligonucleotide has indeed passed through the cell membrane to reach the site of action, targeting and blocking the HIV gene critical to the replication of the AIDS virus.

TISSUE DISTRIBUTION OF GEM 47 IN MOUSE (30 MG/KG I.P.)



Pharmacokinetic study of oligonucleotide phosphorothioate shows that after administration of a single dose (either intravenously or intraperitoneally), presence was found in most of the tissues for up to 48 hours. Appx. 30% dose was excreted in urine within 24 hours, irrespective of the mode of administration. In most organs, oligonucleotide degradation was up to 15%; in kidney and liver, up to 50% degradation was observed in 24-48 hours. Therapeutic dose of oligonucleotide phosphorothioate (based on tissue culture) was present in most organs up to 48 hours after a single administration.

INFLUENZA VIRUS



Oligonucleotides tested for antiviral activity against influenza virus, depicting the three types of RNA present in infected cells, complementary, viral and messenger. The oligonucleotides were synthesized complementary to AUG site. Sequence specific inhibition of influenza C virus was 97% effective with an exact match, the effectiveness decreasing symmetrically with the numbers of mismatches. The high degree of success in specifically targeting gene sequences demonstrates the selectivity, and subsequent elimination of toxic reactions in antisense activity.

Hybridon, Inc. is engaged in the discovery and development of therapeutic compounds called antisense oligonucleotides which modulate the genetic expression of target proteins associated with human diseases. Founded by a pioneer in the field of antisense technology, the Company has the benefit of more than ten years of research in this field. This research base has positioned Hybridon as a leader in antisense oligonucleotide chemistry; a strong proprietary position which includes an issued U.S. patent which broadly covers the use of antisense oligonucleotides for six lead compounds: GEM 91 and 92 for AIDS, GEM 122 for influenza A, and lead compounds for herpes simplex virus, malaria and Alzheimer's Disease.

BIOLOGICAL SCIENCES

Virologists We are looking for highly motivated scientists to establish research programs which evaluate potential antiviral agents and their mechanism of action. Ideal candidates would possess a PhD with post-doctoral experience in virology, using molecular approaches to investigate human viral infections. Scientists should have broad experience in molecular biology including cloning, PCR, and mammalian expression systems as well as virology. **Dept. BV.**

Research Associates Several openings exist for Research Associates with a BS/MS and appropriate experience in molecular biology, cloning, DNA transfection in mammalian cells and tissue culture. Experience with immunological techniques is helpful. Positions are available in the areas of research related to cancer and virology. **Dept. BRA.**

Ribozyme Research Chemists at all levels with experience of oligonucleotide synthesis and/or the chemistry and physical chemistry of oligonucleotides and RNA for studies to develop antisense and ribozyme therapeutics. **Dept. BRR.**

CHEMICAL SCIENCES

Analytical Chemist Positions are available for candidates who possess a PhD in Analytical Chemistry or Biochemistry and 2 to 5 years' experience in HPLC and spectroscopy of biomolecules. Experience in industry FT NMR and mass spectrometry is advantageous. **Dept. CAC.**

Oligonucleotide Chemists Experience in nucleoside, nucleotide and oligonucleotide chemistry necessary. Experience in the area of carbohydrate, heterocyclic or phosphorus chemistry desirable. Candidates should be familiar with related synthetic and analytical techniques. A PhD is required in related sciences. **Dept. GOC.**

Research Associates Ideal candidates possess a MS/BS with 3+ years' laboratory experience in HPLC of biopolymers. Experience in mass spectrometry is helpful. **Dept. CRA.**

PRODUCTION

Production Operations Several openings in oligonucleotide synthesis and purification. These positions require 3+ years' laboratory experience in either synthetic organic chemistry or HPLC of biopolymers. Process scale-up experience is desirable. **Dept. PPO.**

Materials Manager This position is responsible for overseeing activities related to the procurement of materials, parts and equipment, directing the activities of buyers to accomplish company objectives, and developing policies and procedures for the operation of procurement activities. Ideal candidates should be proficient in computer based systems to track raw materials, work in progress and finished goods. Desirable skills would be knowledge of pharmaceutical manufacturing, GMP and QA documentation. Waste management responsibilities include tracking and schedule removal. BS is required preferably in a scientific discipline or a related field with a minimum of 3 years' purchasing/material experience. **Dept. PMM.**

Production Technicians

Process support personnel for oligonucleotide manufacturing. Requires knowledge of general organic chemistry principles with laboratory experience. Process scale-up experience is highly desirable. **Dept. PPT.**

Collaborate with our outstanding team of scientists to expand on antisense technology, and bring our products to market. We offer a highly competitive salary and benefits package, as well as a convenient location in the Massachusetts Biotechnology Research Park. Please send your C.V., referencing the department, to: **Hybridon, Inc., Human Resources Manager, One Innovation Drive, Worcester, MA 01605.** An equal opportunity employer.

POSITIONS OPEN

ASSISTANT MANAGER

Pioneer Hi-Bred International Inc., a Fortune 500 company and a recognized world leader in the genetic modification of agronomic crops, has an immediate opening for an assistant manager in the Oils Analytical Chemistry Laboratory.

Pioneer conducts extensive oil quality improvement programs in several important oilseed crops as part of the company's long-term strategy to provide value-added traits in its seed products. The assistant manager will play a major role in this effort by supervising routine analytical support operations, improving protocols, and troubleshooting analytical and automated equipment.

The ideal candidate will have a B.S. plus 5 years of relevant experience or an M.S. with 2 years of relevant experience. Mechanical aptitude, computer knowledge, and good communication skills are preferred.

Pioneer is an Equal Opportunity Employer providing a competitive salary, excellent benefits, and a cooperative work environment. Please send résumé by June 1, 1993, to:

Pioneer Hi-Bred International, Inc.
Department of Research Specialists
Assistant Manager, Oil Chemistry Laboratory,
7250 N.W. 62nd Avenue, P.O. Box 1004
Johnston, IA 50131

ANATOMIST: The Department of Biological Sciences at Idaho State University invites applications for a **TENURE-TRACK POSITION** in anatomy. Applicants should have completed a doctorate, and postdoctoral experience is preferred. Teaching assignments will include neuroanatomy, gross anatomy, and cross-sectional anatomy for physical therapy, dental, and other health professional students. The successful applicant will be expected to work with graduate students and develop a research program that complements existing effort in the department. This position will remain open until filled, but applicants should send a letter of application, curriculum vitae, and letters of recommendation by June 5, 1993, to: **Chairman, Anatomy Search Committee, Department of Biological Sciences, Box 8007, Idaho State University, Pocatello, ID 83209.** Idaho State University is an Equal Opportunity/Affirmative Action Employer.

NMR SPECTROSCOPY. The University of Massachusetts at Amherst invites applications for a tenure-track **FACULTY POSITION** in NMR spectroscopy. Appointments will be considered at any level and in any of three departments: Biochemistry and Molecular Biology, Chemistry, or Polymer Science and Engineering, depending on the interests of the candidate. It is anticipated that the successful candidate will develop an active research program in the application of NMR methods to problems of structure and dynamics of macromolecules of natural or synthetic origin. Vigorous participation in the teaching activities of the chemical sciences community on campus is also expected. Salary is commensurate with qualifications and experience. Please send a résumé, a brief statement of teaching and research interests, and three letters of recommendation to: **David A. Tirrell, Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA 01003.** The deadline for receipt of applications is July 1, 1993; however, the search will continue until an appointment is made. All appointments are subject to final budgetary approval. The University of Massachusetts is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION at Boise State University in Landscape Ecology and Computer Modelling. Applicant must have background in Ecology, GIS, and Computer Modelling. Responsibilities include modelling of dynamics of vegetation, prey, and raptor populations. Send curriculum vitae, selection of reprints, and names of 3 references by June 1, 1993, to: **Dr. Mark Fuller, Director, RRTAC, 3948 Development Avenue, Boise, ID 83705. Telephone: (208) 384-3482.** Affirmative Action/Equal Opportunity Employer Institution.

POSTDOCTORAL POSITION available to study phenotypic and genotypic expression of P450 enzymes in human subjects of different ethnic backgrounds. Experience in the characterization of P450 enzymes is desirable. Send curriculum vitae and references to: **Dr. Judy Raucy, College of Pharmacy, University of New Mexico, Albuquerque, NM 87131.** Applications accepted up to June 30, 1993.

POSITIONS OPEN

POSITIONS AVAILABLE TO STUDY BRAINSTEM TRANSMITTER SYSTEMS

• **POSTDOCTORAL POSITIONS** are available immediately to study stress and depression via peptide/monoamine actions on brainstem nuclei using neuro-anatomical techniques and *in vivo* electrophysiological recording in anesthetized and unanesthetized rats. Contact: **Dr. Rita J. Valentino.**

• **POSTDOCTORAL POSITION** available to study anatomy of brainstem transmitter systems in primates. Contact: **Dr. Gary Aston-Jones.**

• **FACULTY MEMBER** (non-tenure-track) sought to record intracellularly from brainstem neurons *in vitro* and *in vivo*. Strong experience with intracellular and CNS *in vitro* techniques required. Well-equipped, dedicated lab among an interdisciplinary group of neuroanatomists, neurophysiologists and behaviorists. Submission of grant applications for independent work encouraged. Contact: **Dr. Gary Aston-Jones.**

A Ph.D. in neuroscience or a related field is required and experience in a relevant technique is recommended. Competitive salary; excellent benefits. Send curriculum vitae to: **Dr. Valentino or Aston-Jones at Department of Mental Health Sciences, Hahnemann University, MS 403, Philadelphia, PA 19102-1192; FAX: (215) 246-5341.**

POSTDOCTORAL POSITION NEUROIMMUNOLOGY

Position available immediately for a Ph.D., D.V.M. or M.D. with background in immunology or neurology, to study the interaction of lymphocytes and central nervous tissue. This program will provide collaborative opportunities with a multidisciplinary team involved in immunology, virology and molecular biology. Please send curriculum vitae and the names of three references to: **Roel C. van der Veen, Ph.D., USC School of Medicine, Department of Neurology, MCH 142, 2025 Zonal Avenue, Los Angeles, CA 90033.**

The University of Southern California is an Equal Opportunity/Affirmative Action Employer and especially seeks women and minority candidates.

MOLECULAR BIOLOGY—HEMATOPOIETIC DIFFERENTIATION: POSTDOCTORAL POSITION to investigate the function and regulation of a new gene that may have a role in differentiation and programmed cell death. Creativity and experience in molecular biology are desirable. Contact: **Dr. Ruth Craig, Department of Pharmacology and Toxicology, Dartmouth Medical School, Hanover, NH 03755-3835.** Dartmouth is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and members of minority groups.

POSTDOCTORAL POSITIONS available at the Boston Heart Foundation, an academic medical research institute with staff affiliations at MIT and/or Harvard Medical School, for molecular, biochemical, and immunohistochemical studies of early events in arteriosclerosis. Join a rapidly expanding, highly collegial research group with innovative ideas. Excellent opportunity for research productivity and collaboration with neighboring institutions. Experience in cell/molecular biology, bioorganic chemistry, or experimental pathology desirable. Send curriculum vitae, brief statement of research interest, and list of three references to: **Dr. Robert S. Lees, Harvard-MIT Division of Health Sciences and Technology, Boston Heart Foundation, 139 Main Street, Cambridge, MA 02142.**

POSTDOCTORAL POSITIONS. Available immediately to study intracellular signal transduction. One position will focus on gene regulation (*ONCOGENE* 8, 433) and experience with screening of cDNA libraries would be an advantage. The other position will focus on receptor signalling in lymphocyte disease. Here, previous work with proteins (Western blot, immunoprecipitation) would be an advantage. Send or FAX your curriculum vitae and names of three references (please include telephone/FAX) to: **Dr. Axel Schönthal, Department of Microbiology, University of Southern California School of Medicine, 2011 Zonal Avenue, HMR-401, Los Angeles, CA 90033-1054.**

An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

UNIVERSITY OF WISCONSIN-MADISON

POSTDOCTORAL POSITION available July 1, 1993, for 2 years involving studies on the production and use of compost extracts to suppress foliar plant disease. Research includes efficacy, mode of action, and storage and formulation regimens to optimize effectiveness. Candidate should preferably have experience in **Plant Pathology, Mycology, Soil Microbiology, or Microbial Ecology.** Send résumé, transcripts, and the names of 3 referees to: **Dr. John H. Andrews, Plant Pathology Department, 1630 Linden Drive, University of Wisconsin, Madison, WI 53706. FAX: (608) 263-2626.** Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION BIOCHEMISTRY/TOXICOLOGY

Applications are invited for a 2-year postdoctoral position as a member of a multidisciplinary research team at the Monell Chemical Senses Center, Philadelphia, Pennsylvania. The successful candidate will investigate modes of action of bird and mammal repellents (e.g., stimulus-receptor interaction on trigeminal chemoreceptors). Candidates must have background and/or expertise in biochemistry and toxicology. This is a term appointment with the U.S. Department of Agriculture at the GS-11 level (\$33,623 per year; research funding accompanies the position). The Federal Government is an Equal Opportunity Employer. For additional information, contact: the **Monell Center (215-898-6666).** Applications must be postmarked by June 11, 1993. For application materials (recruitment notice AG-AD-130), contact: **USDA/APHIS, Human Resources Operations, Examining Unit, Butler Square, 5th Floor, 100 North 6th Street, Minneapolis, MN 55403; Telephone: (612) 370-2200.**

POSTDOCTORAL POSITION IN CELL BIOLOGY

A postdoctoral scientist position will be available beginning June 1, 1993, to investigate biochemical mechanisms of ischemia in cultured mammalian brain cells. Expertise is required in tissue culture techniques, particularly involving primary cultures of nontransformed cells. Experience is also desirable in enzymology, molecular biology and NMR spectroscopy. Address inquiries to: **Peter W. Stacpoole, Ph.D., M.D., Department of Medicine, Box 100226, University of Florida, College of Medicine, Gainesville, FL 32610.**

POSTDOCTORAL POSITION is available immediately to study placental hormone gene expression in rhesus monkey syncytiotrophoblasts at the Wisconsin Regional Primate Research Center, University of Wisconsin. Ph.D. in cellular or molecular aspects of reproductive biology and experience in cell culture and molecular biology desired. Submit letter of application, curriculum vitae and names, addresses and telephone numbers of three references to: **Dr. Thaddeus G. Golos, Ph.D., Wisconsin Regional Primate Research Center, University of Wisconsin, 1223 Capitol Court, Madison, WI 53715-1299, Telephone: 608-263-3567, Email: golos@primate.wisc.edu.bitnet.** The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION. Available immediately to study the molecular basis for triacylglycerol droplet recycling in mammalian cells. A strong background in molecular biology is required. Experience with expression libraries is desirable. Send curriculum vitae and names of three references to: **Dr. Rosalind A. Coleman, Department of Nutrition, University of North Carolina, SPH CB# 7400, Chapel Hill, NC 27599-7400.** UNC is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION supported by an NIH grant, available July 1993, to study molecular biology of coagulation factors. Study to involve PCR, recombinant DNA, site-directed mutagenesis, documentation of genetic variants, eukaryotic cell expression, structure-function correlates related to interactive sites; computer-assisted molecular modeling, and design of inhibitory peptides. Send curriculum vitae, selected papers and names of three references to: **Harold L. James, Ph.D., Department of Biochemistry, The University of Texas Health Center at Tyler, Tyler, TX 75710. Telephone: (903) 877-7003, FAX: (903) 877-7558.** Equal Opportunity/Affirmative Action Employer.

Arctic Research Consortium of the United States, Inc.

The Arctic Research Consortium of the United States (ARCUS) is seeking a highly qualified individual to serve as its President and Chief Executive Officer. ARCUS is a national non-profit corporation, consisting of member institutions involved in arctic research and education. ARCUS provides leadership in and promotion and facilitation of these activities.

The President provides leadership for the Consortium, is responsible to its Board of Directors, manages the affairs of ARCUS, and supervises its staff. The President recommends and implements the programs and policies established by the Board of Directors; develops and administers ARCUS programs and activities; represents the corporation in contract, grant, and financial negotiations with government and private funding and banking entities; and interacts with the arctic research community to assess and advance its needs and priorities. The President represents ARCUS interests and concerns to other groups and organizations to ensure that quality programs and services exist to meet the needs of the arctic research and education community.

Applicants are required to have a Ph.D. or its equivalent. Applicants should also have at least five years of experience in the design and conduct of research in the Arctic and at least five years of experience in the design and management of interdisciplinary research. Demonstrated excellence in the ability to communicate and function effectively with diverse constituencies within the scientific and education community, the policy making community, and the general public is highly desirable. Successful experience in the preparation, negotiation, and management of grants and contracts, as well as in direct responsibility for fiscal management, is a must.

Salary will be negotiated. ARCUS offers a competitive benefits package. ARCUS is currently based in Fairbanks, Alaska.

Send applications, including curriculum vitae and four references, for receipt by 15 May 1993, to:

President Search Committee
Dr. Mark F. Meier, Chair
ARCUS, Inc.
600 University Avenue, Suite B
Fairbanks, AK 99709

ARCUS is an Equal Opportunity, Affirmative Action Employer and invites and encourages applications and nominations from women and under-represented minorities.



Our entrepreneurial environment naturally evolves as a function of our mission: the development of recombinant DNA-based human therapeutics, utilizing the principles of cellular and molecular biology...through rapid product development and innovative commercialization strategies. We currently have an opportunity for the following professional:

Research Associate in Stem Cell Biology

Candidate for this position must have a BS/MS degree in Biochemistry, Cell Biology or related field, with at least two years research experience, preferably with an emphasis on hematopoiesis and/or immunology. Additionally, candidate should have experience in tissue culture, protein characterization and assay development. Knowledge of receptor biology and experience with animals are desirable.

At Amgen, we invest our employees with the freedom to manage their affairs, regulate the quality of work, and make decisions within company goals. And we back this freedom with meaningful challenge and responsibility, as well as a compensation and benefits package that reflects the level of our commitment. If you're interested in this position, please submit your resume, for confidential consideration, to: **Amgen Inc., Staffing, Job Code OA-SC-JC-005, Amgen Center, Thousand Oaks, CA 91320-1789.**

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

SR. RESEARCH CHEMIST/FOOD SCIENCE

Cargill, Inc., a world leader in agriculture and industry, located in Minnetonka, Minnesota, a suburb of Minneapolis, has an opening in our Research Department for a Senior Research Chemist.

To qualify for this position, applicants must have an undergraduate or graduate degree in Chemistry and a Ph.D. in Cereal or Food Science with an emphasis on the chemical-physical properties of food or food materials. We are looking for a special person—one who has specialized in the physio-chemical (material) properties of food ingredients and how they function (mechanistically) in finished food products. You will have the freedom to initiate and execute innovative projects—to develop food ingredients leading to new businesses. You must then be willing and able to sell management on the pursuit of those new ideas and projects. You must have 1-10 years of academic or industrial experience beyond the Ph.D., including experience in baked goods, dry food products or food ingredients. Exceptional communication and teamwork skills are required.

Cargill offers a competitive salary and benefit package and long term career opportunities. The quality of life in the Twin Cities is second to none. Qualified candidates may respond by sending a current resume, with cover letter to **Donna Bloom, HRD #10, Cargill, Inc., P.O. Box 9300, Minneapolis, MN 55440.**

Equal Opportunity Employer/No phone calls please



Cardiovascular Postdoctoral Fellowship

The Cardiac Cellular Mechanisms Laboratory of PARKE-DAVIS Pharmaceutical Research is accepting applications for a Postdoctoral Research Fellow with basic research interests in the cell biology, biochemical pharmacology and molecular physiology of heart muscle. Primary research areas are focused at understanding the cellular and molecular changes involved in myocardial ischemia, and specifically include 1) the cellular biochemistry of preconditioning and novel signal transduction pathways by which adenosine mediates cardioprotection, 2) cellular and molecular physiology of models of ischemia, and 3) study of contractile protein degradation in disease.

Qualifications include a Ph.D. in biochemistry, molecular biology or related fields. Candidates with experience in membrane biochemistry or signal transduction preferred, with knowledge of basic procedures in molecular biology, tissue culture and protein purification desired. Applicants should demonstrate strong research skills and high motivation, and will have opportunities to interact with collaborating investigators. Presentation of data at internal and national scientific meetings, and an established record of publication are essential.

Applicants should submit their curriculum vitae, a statement of current and intended research interests, and the names of three references to **Box JDM-PD92, Human Resources Department, PARKE-DAVIS Research Division, Warner-Lambert Company, 2800 Plymouth Road, Ann Arbor, MI 48105. "Smoke-Free Work Environment"**



"Equal Opportunity in Action"



**University of Zürich
Institute of Physiology**

The following positions will be available starting May 1, 1993:

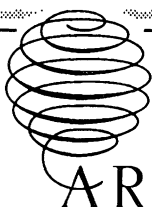
Postgraduate position and a Graduate student position in gene targeting/embryonic stem cells/ hematopoiesis

The successful applicants will be involved in the investigation of the oxygen-dependent gene expression of erythropoietin and in the characterization of an episomal vector for embryonic stem cells. The projects involve molecular biology, gene targeting experiments in embryonic stem cells, generation of chimeric mice and development of an *in vitro* model system of hematopoiesis using embryoid bodies.

Postdoctoral fellow: Applicants should have relevant experience in molecular biology and good knowledge of cell culture techniques. This position is funded by the Kanton of Zürich and involves teaching of medical students. Therefore, basic knowledge of German is required.

Graduate student: Applicants should have a diploma in biology or biochemistry. Practical experience in cell culture and/or molecular biology is desirable. The project is initially funded for three years by the Swiss National Science Foundation.

Applications including CV, publication list and the names of two referees should be sent before May 3, 1993 to: **Dr. Max Gassmann, Institute of Physiology, University of Zürich-Irchel, Winterthurerstrasse 190, CH-8057 Zürich, Switzerland, Phone: +41 1/257 50 51, FAX +41 1/364 05 64.**



ARIAD

ARIAD, a fast-growing biopharmaceutical company located in Cambridge, MA, is developing a new class of drugs that selectively target intracellular communication pathways to alter the course of disease. ARIAD combines the most recent advances in molecular cell biology with the sophisticated tools of structure-based drug design to develop novel small molecules for human health care.

SENIOR SCIENTIST MAST CELL BIOLOGY ALLERGY/ASTHMA THERAPY

ARIAD is seeking a cell biologist/immunologist to develop assays for inhibitors of mast cell activation and to investigate the IgE receptor signal transduction. The successful candidate will work closely with molecular biologists and chemists in developing assays and evaluating candidate inhibitors. A Ph.D. and at least two years postdoctoral research experience working with mast cells in an academic institution or pharmaceutical company is required.

ARIAD offers a competitive salary and benefit package including incentive stock participation. Interested individuals should send a resume and the names of three references to: Dr. Joan Brugge, ARIAD Pharmaceuticals, Department M, 26 Landsdowne Street, Cambridge, MA 02139.

ARIAD is an equal opportunity employer.

41st Rachford Lectures

September 27 and 28, 1993

Transcriptional Control of Embryogenesis

An International Symposium
Children's Hospital Medical Center
Cincinnati, Ohio

Sponsored by

Perinatal Research Institute and Program of Excellence in Molecular Biology of the Heart and Lung, Children's Hospital Medical Center, Cincinnati, Ohio, and University of Cincinnati College of Medicine.

Participating Speakers:

Mario Capecchi
University of Utah
Peter Gruss
Max Planck Institute
Rudolf Jaenisch
Massachusetts Institute of Technology
Robb Krumlauf
National Institute for Medical Research
Harold Moses
Vanderbilt University
Eric Olson
University of Texas
Stuart Orkin
Harvard University
Robert Roeder
Rockefeller University
Janet Rossant
University of Toronto
Erkki Ruoslahti
La Jolla Cancer Research Foundation

Abstracts for poster presentation

may be submitted by registered participants. Details will be included with registration materials. Abstract submission deadline is August 1.

To register, and for hotel information, call or write:

Shirley Courtney
Division of Endocrinology,
Children's Hospital
Medical Center,
Elland and Bethesda Avenues,
Cincinnati, Ohio 45229
(513) 559-4209
Fax: (513) 559-7486

No registration fee, but
attendance is limited to
first 400 registrants.
Registration deadline is
July 15.



Children's Hospital Medical Center

RESEARCH FELLOWSHIP POSITIONS

The Basic Research Branch in the National Center for Biotechnology Information has openings for local and foreign post-doctoral scientists interested in mathematical and statistical analysis in molecular biology, biological database design and analysis, and the study of the elucidation of macromolecular function. Applicants must have a Ph.D. or M.D. degree or equivalent. Applicants need not necessarily be U.S. citizens. These positions are available in groups directed by the following senior investigators:

Stephen Altschul	-	Measures of sequence similarity and methods for sequence comparison.
Mark Boguski	-	Signal transduction motifs; sequence repeats, genome informatics.
Stephen Bryant	-	Database methods for protein structure prediction.
Jean-Michel Claverie	-	Large scale sequence analysis and genome research.
Eugene Koonin	-	Comparative analysis of genome organization and the evolution of viruses.
David Landsman	-	Non-histone chromosomal proteins; nucleosome and chromatin structure.
Charles "Chip" Lawrence	-	Statistics applied to molecular and structural biology.
David Lipman	-	Computational molecular biology and molecular evolution.
John Spouge	-	Analysis of sequence information and biological diffusion-reaction processes.
John Wilbur	-	Optimization of textual information retrieval.
John Wootton	-	Computational molecular biology and subtle sequence information.

Stipends start at or over \$25,000 per year depending on experience. Applications will be accepted until January 31st, 1994 although there are a limited number of positions available. Candidates should send a curriculum vitae and the names, addresses and telephone numbers of three references directly to one of the above at:

**National Institutes of Health, National Library of Medicine
National Center for Biotechnology Information
Building 38A, Room 8N-803
Bethesda, MD 20894
U.S.A.**

Selection for this position will be based solely on merit, with no discrimination for non-merit reasons such as race, color, religion, sex, national origin, politics, marital status, physical or mental handicap, age, or membership or non-membership in an employee organization.

NIH is an Equal Opportunity Employer

RESEARCH OPPORTUNITIES IN BIOTECHNOLOGY

The Department of Biotechnology Research is seeking applicants for our ongoing program of crop improvement. Pioneer offers competitive salaries, excellent facilities and a highly cooperative research environment. Successful candidates will be expected to interact extensively with ongoing programs in transformation, gene expression, gene isolation or RFLP programs.

PROJECT COORDINATOR, TRANSFORMATION TECHNOLOGY (JOB #1361-B) - We have an immediate opening for a highly motivated scientist to coordinate a research group working on transformation technology for corn. Transformation technology includes projects on development of transformation methods for elite genotypes as well as site-specific integration. In addition to coordinating the group, the Project Coordinator will also be encouraged to conduct independent research related to transformation technology. **EDUCATION/EXPERIENCE:** PhD or equivalent experience in plant transformation, plant cell biology, molecular biology or related field and 3 years experience in leading a research team. Experience in goal setting and project time lines is also needed.

SENIOR RESEARCH ASSOCIATE, CELL BIOLOGIST (JOB #1361-D) - The person in this position will have responsibility for a project on herbicide resistance in corn and will work directly on producing transgenic corn plants for the project. The individual will interact with other researchers working on a variety of agronomically important traits. **EDUCATION/EXPERIENCE:** MS degree in plant biology or equivalent experience plus 2 years directly related lab experience in corn tissue culture and transformation; or, BS degree plus 4 years relevant experience. Experience in producing and analyzing transgenic corn plants, familiarity with computers and statistical analysis, good communication and organizational skills and skill in project management are also required.

Applications received by **MAY 30, 1993** will be assured of consideration. However, applications will be considered until the positions are filled.

Pioneer Hi-Bred International, Inc. is an Equal Opportunity employer. Please send **TWO (2)** sets of resume information for each position you are applying. Indicate in your correspondence the **JOB #**, and the names, addresses and telephone numbers of three references to:



PIONEER HI-BRED INTERNATIONAL, INC.
Plant Breeding Division, Dept. of Biotechnology Research
Attn: Jo Ann Jorgensen JOB # _____
P.O. Box 38 • Johnston, IA 50131-0038

REGIONAL MEDICAL ASSOCIATES



SmithKline Beecham is a \$9.2 billion global pharmaceutical and health care company. Our world famous products and reputation mean unsurpassed opportunities for individuals to combine their scientific and marketing expertise as Regional Medical Associates.

Our Regional Medical Associates establish relationships within major medical institutions for the purpose of acting as scientific liaison and providing in-depth information regarding SmithKline Beecham products. This includes the training of representatives and medical professionals. Travel 40%.

To qualify, you must have a Ph.D. in Pharmacology, Toxicology, Microbiology or related life sciences. Strong marketing and communication skills and a high degree of initiative are also required. Opportunities currently exist in the Ohio, Rocky Mountain and West Virginia areas.

We offer one of the best compensation packages - including a car - in the industry. If you'd like to be a part of our success, send your resume with salary history to: SmithKline Beecham, Central Employment, FP1135, 200E North 16th Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/D/V.

SB
SmithKline Beecham

POSITIONS OPEN

POSTDOCTORAL POSITION is available immediately to study the molecular basis for peroxisome induction. Studies, in both yeast and mammalian cells, are aimed towards understanding the regulation of gene expression in response to agents that cause peroxisome proliferation. Previous experience in modern recombinant DNA technology required. Please send curriculum vitae and the names of three references to: **Dr. Gillian M. Small, Department of Cell Biology/Anatomy, Box 1007, The Mount Sinai Medical Center, One Gustave L. Levy Place, New York, NY 10029-6574. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION—PLANT MOLECULAR GENETICS: A position is available on July 1, 1993, or thereafter to study the structure and function of maize centromeres with the eventual goal of generating maize artificial chromosomes in tissue culture cells. Experience with plant or yeast genetics/molecular biology is desirable. Please send curriculum vitae and the names and telephone numbers of three references to: **James A. Birchler, Division of Biological Sciences, University of Missouri, Columbia, MO 65211; Email: birchler@biosci.mbp.missouri.edu. The University of Missouri is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION MASSACHUSETTS GENERAL HOSPITAL HARVARD MEDICAL SCHOOL CUTANEOUS BIOLOGY RESEARCH CENTER

A postdoctoral research position is available immediately to study TGF- β signal transduction during *Drosophila* development. Approach involves identifying genes that interact with *dpp*, the fly homolog of BMP4, followed by molecular and developmental analysis of function. Our goal is to elaborate the molecular pathway for *dpp* signal transduction, and understand how this signal can elicit different developmental events. The position requires a Ph.D. Experience in molecular genetics is desirable. Salary is negotiable according to experience and institutional guidelines. Send curriculum vitae and three letters of reference to:

**Dr. Laurel Rafferty
Massachusetts General Hospital
Cutaneous Biology Research Center
Building 149, 13th Street
Charlestown, MA 02129**

The MGH/Harvard CBRC is a committed Equal Opportunity/Affirmative Action Employer. Minorities, women, handicapped and veterans are encouraged to apply.

POSTDOCTORAL POSITION. Behavioral ecology and experimental functional morphology of bird flight. Available immediately to study flight behavior in the field (high-speed cinematography and time-budgeting) and to assist in recordings of neuromuscular control and kinematics of flight behavior in the laboratory. Three species of Columbids and two species of Corvids will be investigated. Send résumé and names of at least three references to: **Ken Dial, Division of Biological Sciences, The University of Montana, Missoula, MT 59812. Telephone: 406-243-6631. Applications accepted until position is filled. An Equal Opportunity/Affirmative Action Employer.**

MOLECULAR ENDOCRINOLOGY

TWO POSTDOCTORAL POSITIONS are available to investigate the gene regulation and structure-function relationship of the LH/CG receptor. Qualified candidates should send curriculum vitae and arrange to mail three reference letters to: **Professor Tae H. Ji, Department of Molecular Biology, University of Wyoming, Laramie, WY 82071-3944. Telephone: 307-766-6272. FAX: 307-766-5098.**

POSTDOCTORAL POSITION available in fall 1993 to investigate the mechanism of protein folding. Ongoing projects include using stopped flow NMR and other techniques on wild type and site-directed mutants of various proteins. Applicants should have experience in physical chemical techniques and molecular biology. Send curriculum vitae and names of three references to: **Dr. Carl Frieden, Department of Biochemistry and Molecular Biophysics, Box 8231, Washington University School of Medicine, St. Louis, MO 63110. Email: frieden@bcserv.wustl.edu. An Equal Opportunity Employer.**

POSITIONS OPEN

EXTRACELLULAR MATRIX BIOLOGY POSTDOCTORAL POSITION

To investigate macromolecular and cell-matrix interactions in the development of extracellular matrices; or changes in gene expression modulating matrix assembly. Experience in cell, developmental and/or molecular biology required. Send a letter summarizing background and interests, curriculum vitae and the names of 3 references to: **David E. Birk, Ph.D., Department of Anatomy and Cellular Biology, Tufts University School of Medicine, 136 Harrison Avenue, Boston, MA 02111.**

POSTDOCTORAL POSITIONS are available to study the effects of human immunodeficiency virus (HIV) on the cytoskeleton and motile behavior during HIV-induced cell fusion. This will be a collaborative research effort in the laboratory of **Dr. Ronald C. Kennedy** at the Center for AIDS Research, Southwest Foundation for Biomedical Research, San Antonio, Texas, with **Dr. David R. Soll** of the University of Iowa. Candidates are expected to have a Ph.D. or M.D. and training in molecular cytology. Annual salaries range between \$23,691 and \$33,280, commensurate with relevant experience. Interested individuals should send curriculum vitae and the names, addresses and telephone numbers of three references by June 1, 1993, to: **Personnel Manager (322), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78228-0147. This information will be reviewed by both Drs. Soll and Kennedy.**
An Equal Opportunity Employer M/F.

POSTDOCTORAL FELLOWSHIPS

Five faculty members of **The Johns Hopkins University School of Medicine** invite applications for postdoctoral fellowships in a program project on "Regulation of Epithelial Differentiation and Transport." The faculty and areas of interest are:

Mark Donowitz: Molecular studies of epithelial Na/H exchangers—protein kinase regulation.

Gerda Breitwieser: Electrophysiology and molecular biology of intestinal Cl⁻ channels.

Marshall Montrose: Cellular and molecular biology of colonic short-chain fatty acid transport.

Cynthia Sears: Molecular studies of bacterial toxin-mediated diarrheal disease.

Vincent Yang: Transcriptional regulation of intestinal epithelial genes.

The program is highly interactive; groups meet together regularly and a number of collaborative projects are in progress. Interested applicants, preferably recent Ph.D. candidates, should send curriculum vitae, names of three references and a statement of research interests to: **Dr. Mark Donowitz, Department of Medicine/Gastroenterology, The Johns Hopkins University, Ross 918, 720 Rutland Avenue, Baltimore, MD 21205-2196. FAX: 410-955-9677.**

POSTDOCTORAL FELLOW/RESEARCH SCIENTIST position available for work in our laboratory studying the expression of human proteins in transgenic animals. Knowledge of molecular biology required; background in protein purification or transgenic animals beneficial. We provide a highly stimulating research environment with performance-oriented, competitive salaries and excellent employee benefits. Submit curriculum vitae, copies of selected publications, address and telephone numbers of three references to: **Henryk Lubon, Ph.D., HOLLAND LABORATORY, Plasma Derivatives Department, American Red Cross, 15601 Crabbs Branch Way, Rockville, MD 20855.**

An Equal Opportunity Employer, M/F/H/V.

POSTDOCTORAL RESEARCH ASSOCIATE FOR AUDITORY PHYSIOLOGY

This position is available for a Ph.D. graduate to study neural mechanisms for the processing of complex communication sounds and/or biosonar sounds in the bat's auditory system. A person with background in neurophysiology, neuroanatomy and/or ethology is welcome to apply. Please send (1) curriculum vitae, (2) a brief statement of research interest and experience, and (3) names and telephone numbers of three references to: **N. Suga, Ph.D., Department of Biology, Washington University, Lindell-Skinker Boulevard, St. Louis, MO 63130. FAX: 314-935-4432. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN GROWTH FACTOR SIGNAL TRANSDUCTION: Available immediately for recent Ph.D. with training in cell and molecular biology. Research involves molecular biological approaches to identification of signaling proteins for growth factors, with emphasis on TGF β . Send curriculum vitae and names of 3 references to: **Dr. Kathleen M. Mulder, Department of Pharmacology, Penn State University College of Medicine, 500 University Drive, Hershey, PA 17033; FAX: 717-531-5013. Equal Opportunity Employer.**

Several **POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS** are available for well-qualified individuals to join a laboratory studying structure, function and gene regulation of acidic FGF in mammalian and amphibian cells. The successful candidates will have training in molecular biology and/or biochemistry. Individuals with previous postdoctoral experience are encouraged to apply. Salaries commensurate with experience. Interested individuals should forward curriculum vitae and the names and addresses of three references to: **Dr. Ing-Ming Chiu, Davis Medical Research Center, The Ohio State University, 480 West Ninth Avenue, Columbus, OH 43210.**

RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW to study intracellular packaging and synthesis of complement receptors in human myeloid cells. Experience with immunoassays, monoclonal antibodies, and/or isolation of subcellular fractionation required. Salary/benefits dependent on qualifications. Send curriculum vitae and references to:

**Melvin Berger, M.D., Ph.D.
Division of Immunology
Department of Pediatrics
Case Western Reserve University
2101 Adelbert Road
Cleveland, OH 44106**

Case Western Reserve University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH POSITION available for a Ph.D. to study the biochemistry and immunochemistry of human blood coagulation factor VIII. A strong background in protein biochemistry is required. Applicant should be a U.S. citizen or permanent U.S. resident and should be applying from a doctoral or postdoctoral training program. Send curriculum vitae, a summary of research accomplishments, and the names, addresses and telephone numbers of three persons in the United States who will provide references to: **Carol A. Fulcher, Ph.D., Department of Molecular and Experimental Medicine and Committee on Vascular Biology, Mail Drop SBR-8, The Scripps Research Institute, 10666 North Torrey Pines Road, La Jolla, CA 92037. Affirmative Action/Equal Opportunity Employer/M/F/H.**

RESEARCH ASSOCIATE—NEW YORK. The Division of Gastroenterology of the Brookdale Hospital Medical Center seeks a Research Associate possessing a Ph.D. degree with expertise in gastrointestinal physiology, gastrointestinal motility, neural and peptidergic control of gastrointestinal function to operate the clinical motility laboratory and to lead the research in the division. Responsibilities also include teaching fellows. Submit curriculum vitae and names of three references to: **Hulya Levendoglu, M.D., Chief, Division of Gastroenterology, The Brookdale Hospital Medical Center, Linden Boulevard at Brookdale Plaza, Brooklyn, NY 11212. Equal Opportunity Employer.**

STAFF ASSOCIATE for Molecular Neurogenetics Laboratory, investigating YACs and cosmid clones that correspond to known genetic markers. Applicant must have, as minimum, Master's degree in related field with four years of professional work experience. In addition, expertise of BIOMEK robot, pulse field gel electrophoresis and polymerase chain reaction equipment required. Send curriculum vitae and three letters of reference to: **Stanley Fahn, M.D., Movement Disorder Division, Department of Neurology, 710 West 168th Street, New York, NY 10032. Columbia University is an Equal Opportunity/Affirmative Action Employer.**

■ Scientists

Miles Inc., Diagnostics Division, a worldwide developer of clinical laboratory instruments, is expanding its research and development activities in the fast-growing and challenging area of automated, high sensitivity immunoassays.

There are immediate positions available for forward thinking R&D scientists, at the Ph.D. level, with solid academic training and 3-4 years' industrial or postdoctoral experience in immunochemistry, protein chemistry, or immunoassay development.

Challenging career opportunities are also available for highly motivated scientists at the BS/MS level with immunoassay product development experience.

The Diagnostics Division offers an environment conducive to professional growth as well as an excellent compensation and benefits program. Send CV in confidence to:

Manager of Human Resources, Technical Staffing, Miles Inc., Diagnostics Division, 511 Benedict Ave., Tarrytown, NY 10591. An Equal Opportunity Employer M/F/H/V.



NIH Post-Doctoral Position

Anti-V β Reagents In Rhesus Models of Autoimmune and Retroviral Diseases

The Laboratory of Molecular Biology has developed novel immunotoxins directed at components of the rhesus T cell receptor complex which induce profound peripheral T cell depletion *in vivo*. The aim of this project is to investigate rhesus models of autoimmune diseases which exhibit unique V β (or V α) restrictions, identify these restrictions and quantify the effects of depleting the involved subset on the disease process. The role of preferential V β susceptibility in SIVmac infection is also of interest. Junior or Senior positions are available and diverse backgrounds will be considered. Please forward curriculum vitae and the names of three references to:

Dr. David M. Neville Jr.
Section on Biophysical Chemistry
Laboratory of Molecular Biology
National Institute of Mental Health
Bldg. 36 Room 1B08
9000 Rockville Pike
Bethesda, Maryland 20892.



Inquiries by FAX will be accepted at 301-402-0245.

NIH is an equal opportunity employer

Discover Treatments For the Causes, Not the Symptoms

At ImmuLogic, our discoveries have allowed us to develop an advanced understanding of the events controlling the human immune system. Through advanced research in immunology and pharmaceutical product development, we're focused on developing therapeutic products for type I diabetes, rheumatoid arthritis, and other autoimmune disorders. At our state-of-the-art research facility in Palo Alto, California, we have the following:

.....CURRENT OPENINGS.....

CELLULAR IMMUNOLOGIST

Will investigate the events leading up to T cell activation in human immune mediated diseases, and the sub-cellular processes involved in antigen processing. This program requires the development of novel techniques, the use of traditional techniques, as well as interaction with collaborators and consultants.

Requirements: Ph.D. in Immunology or related field. Minimum of 2 years of relevant postdoctoral experience in human T cell immunology with "hands on" experience in T cell cloning and characterization.

PEPTIDE CHEMIST

This individual will investigate the structural requirements for MHC class II-antigen binding via the design and synthesis of peptides and peptidomimetics.

Requirements: Ph.D. in Organic Chemistry with experience in peptide chemistry. Experience with automated & manual peptide synthesis required. Computer-assisted molecular modeling, medicinal chemistry techniques and peptidomimetic synthesis highly desirable.

PROTEIN CHEMIST

Using traditional and novel protein chemistry techniques, will identify, clone and purify autoantigens important in type I diabetes and rheumatoid arthritis.

Requirements: Candidates must have a Ph.D. in Biochemistry or a related field; at least 2 years of relevant postdoctoral training with expertise in purification and characterization of proteins from tissue, as well as interaction with collaborators and consultants.

We're in a position to offer you exceptional opportunities and support for your professional stature, as well as an excellent compensation and benefits package. Please send your C.V. to: **Human Resources, ImmuLogic Pharmaceutical Corporation, 855 California Avenue, Palo Alto, CA 94304.** An equal opportunity employer.

IMMULOGIC 
Pharmaceutical Corporation

The clear relationship between business and science

University of Wisconsin-Madison

Associate Director, Center for Biology Education

The University of Wisconsin-Madison seeks a person with experience in biological research and science education to administer the Center for Biology Education, a department dedicated to improving the biology education of college and precollege students and their teachers.

The successful candidate must have a Master's degree; a doctoral degree is preferred. A broad understanding of the diverse research areas comprising the biological sciences, excellent communication skills and a demonstrated capacity for fundraising, problem solving, managerial decision making and consulting are required.

The Associate Director is responsible for the administration and direct management of the Center. This individual works under the advisement of the Director and executive committee, and with Center staff to define and implement Center goals. The Associate Director coordinates the effective use of Center resources in promoting initiatives within the campus community to enhance precollege and undergraduate education. A key participant in planning and policy development, the Associate Director must be familiar with the dynamics of research, teaching and service in a university setting and current science education reform issues. Other responsibilities include: program development, staffing, grant writing and fiscal management. As the supervisor of Center staff, the Associate Director demonstrates a consultative management style in a collaborative, team-oriented environment.

This full-time position is available July 1, 1993. The salary minimum is \$40,000, with excellent fringe benefits. To apply, send a letter of interest, curriculum vitae, statement of philosophy and three letters of reference to Dr. Louise Liao, Center for Biology Education, University of Wisconsin, 660 WARF Bldg., 610 N. Walnut St., Madison, WI 53705. Completed applications must be received by May 20, 1993. The names, titles and addresses of applicants cannot be kept confidential.

The University of Wisconsin is an equal opportunity employer.

POSTDOCTORAL RESEARCH WOUND HEALING PHYSIOLOGY

ConvaTec, a Bristol-Myers Squibb Company, is an industry leader in the development, manufacture and marketing of ostomy and wound and skin care products. Currently, we have a postdoctoral position available with our Skin Care Physiology Research Department.

Candidates should have advanced training and expertise in cellular and molecular biology of wound healing. Laboratory experience with human epidermal and dermal skin cells and an understanding of cytokine cascades and their interactions with dermal matrix protein are preferred. A broad knowledge of cell culture, protein separation techniques, gel electrophoresis, flow cytometry and image analysis methods is also preferred.

We offer an excellent salary fully commensurate with your experience and a comprehensive benefits package. For consideration, send your resume with salary history to: **Human Resources Dept. PR/WHP, ConvaTec, CN 5254, Princeton, NJ 08543-5254.** Equal Opportunity Employer, M/F/D/V.



ConvaTec

A Bristol-Myers Squibb Company

NINTH INTERNATIONAL SYMPOSIUM ON CELLULAR ENDOCRINOLOGY

"Cell Signalling and the Molecular Stress Response"

September 23-26, 1993

at

**Whiteface Inn Resort & Club
Lake Placid, NY**

Sponsored By:

W. Alton Jones Cell Science Center, Inc.



ORGANIZING COMMITTEE:

James L. Stevens, W. Alton Jones Cell Sci. Ctr.

Cecil B. Pickett, Merck Research Laboratories

William F. Greenlee, Purdue University

Topics include: mechanisms of transcription; protein kinases; cell cycle and p53; heat shock and glucose regulated proteins; regulation of cytochrome P450 and GSH-transferases; multidrug resistance genes; peroxisome proliferator, steroid and dioxin receptor mediated effects; molecular responses to asbestos, UV-light, ionizing radiation, metals, DNA damage, nitric oxide.

INVITED SPEAKERS

**Patrick A. Baeuerle
Yinon Ben-Neriah
Chris Bradfield
Margaret A. Brostrom
Max Costa
Tom Curran
Albert J. Fornace, Jr.
Mary-Jane Gething
Stephen Green
Oliver Hankinson
Nicholas Heintz
Peter Herrlich
Susan Jaken
Michael Karin**

**Jeff Laskin
Amy S. Lee
John T. Lis
Ian Macara
John McLachlan
Richard I. Morimoto
Brooke Mossman
William B. Pratt
Carol Prives
Danny Reinberg
Dennis J. Thiele
Ralph Weichselbaum
James P. Whitlock, Jr.
Xiao-kun Zhang**

REGISTRATION FORMS MAY BE OBTAINED FROM:

The Organizing Committee

W. Alton Jones Cell Science Center, Inc.

10 Old Barn Road

Lake Placid, NY 12946

Tel: (518) 523-1252 • Fax: (518) 523-1849

ANNOUNCEMENT

Congratulation to

ROBERT NEIL BUTLER
M.D.
NEW YORK, USA

CYRUS CONRAD JOHNSTON, JR.
M.D.
INDIANAPOLIS, USA

on being awarded the

1993 SANDOZ PRIZE FOR GERONTOLOGICAL RESEARCH

by the Jury of the
International Association of Gerontology

With this prize,
the IAG honors distinguished personalities
for their achievements in gerontological research and
leadership in activities for the betterment of life of elderly
fellow citizens in all parts of the world.

SANDOZ PHARMA LTD, BASLE / SWITZERLAND

POSITIONS OPEN

RESEARCH ASSOCIATE POSITION to manage the automated DNA sequencing section of the W. M. Keck Facility Biotechnology Resource Laboratory at Yale University. Applicants should have a Ph.D. in biochemistry or a related science and extensive experience with DNA sequencing and molecular biology techniques. Candidates should also have good interpersonal and communication skills. Opportunities will be provided for independent research that may focus on improving DNA sequencing methodology, on human genome mapping or sequencing or on other topics that are complementary to research that is ongoing within the laboratory of K. Williams on understanding structure/function relationships in single-stranded nucleic acid binding proteins. The successful applicant will be encouraged to pursue independent grant support as well as to assist in the preparation of shared instrumentation grant proposals. The position will be available this summer and the salary will be commensurate with the level of experience. Curriculum vitae should be sent to: **Ken Williams, Ph.D., W. M. Keck Foundation Biotechnology Resource Laboratory, Boyer Center for Molecular Medicine, 295 Congress Avenue, New Haven, CT 06536-0812. Yale University is an Equal Opportunity Employer.**

GENETIC EPIDEMIOLOGIST

For cancer genetics research program. Must be able to take a leadership role in supervision of a registry of high risk patients, and to facilitate multi-institutional collaboration. Candidates should have postdoctoral experience in both epidemiology and human genetics. The position carries an appointment at Cornell University Medical College. Working conditions and stipend are attractive. Send résumé to: **Dr. D. G. Miller, Strang Cancer Prevention Center, 428 East 72nd Street, New York, NY 10021.**

The Biotechnology Patent Examining Group of the Patent and Trademark Office is currently recruiting scientists for positions as **PATENT EXAMINERS**. Individuals with advanced degrees and/or equivalent experience in the fields of immunology, molecular biology, gene therapy, transgenic animals, animal science, biochemistry, protein engineering and microbiology are urged to send a résumé or SF-171 to the following address:

**Patent and Trademark Office
Office of Personnel
Box 171
Washington, DC 20231
K. Clark (180)**

For further information, call (703) 308-1123. **U.S. CITIZENSHIP IS REQUIRED FOR EMPLOYMENT.**

RESEARCH SCIENTIST IN PHARMACOLOGY COLUMBIA UNIVERSITY, COLLEGE OF PHYSICIANS AND SURGEONS

Advanced skills required in cardiac electrophysiology and pharmacology including microelectrode techniques, measurements of membrane resistance and conductance, experience using models of ischemia, hypoxia, and reperfusion. Advanced knowledge of antiarrhythmic drug pharmacology and electrophysiology essential. Applicants must be fluent in English; knowledge of either German or Russian useful to facilitate ongoing international collaboration. Annual salary \$40,000. Send curriculum vitae and the names of three references to: **Dr. Michael R. Rosen, Department of Pharmacology, Columbia University, 630 West 168th Street, New York, NY 10032. FAX: (212) 305-8780. Columbia University is an Equal Opportunity/Affirmative Action Employer.**

COURSES AND TRAINING

COURSE ON CRYOPRESERVATION OF MOUSE EMBRYOS May 24-28, 1993 and October 25-29, 1993

All aspects of zygote and cleavage-stage embryo cryopreservation will be taught in this "hands-on" course. Co-directors: **L.E. Mobraaten, The Jackson Laboratory and S.P. Leibo, University of Guelph.** For further information contact: **Ms. Linda Neleski, The Jackson Laboratory, 600 Main Street, Bar Harbor, ME 04609. Telephone: (207) 288-3371, FAX: (207) 288-8982 or 288-5079, Email: lem@jax.org.**

ANNOUNCEMENTS



ENTREPRENEURIAL SCIENTIFIC/ EMERGING COMPANIES

There are a number of excellent reasons why the Colorado Bio/Medical Venture Center is the place to launch your new bio/medical company:

- We provide you with a research campus, labs, university and business ties, regulatory assistance, fundraising help and administrative support.

- Locating in Colorado means a superb quality of life, low costs, easy national and international access, and a high quality work force. Plus, you'll be part of a growing community of world-recognized research institutions such as the University of Colorado, Colorado State University and the National Jewish Center for Immunology and Respiratory Medicine, and more than 200 bio/med companies, including high profile Synergen, Ribozyme, Cobe Laboratories and Spectranetics.

- Investigate the possibilities for you and your company today. Call (303) 237-3998, FAX: (303) 237-4010 or write us at: CBVC, 1610 Pierce Street, Lakewood, CO 80214.

MEETINGS

CONFERENCE ON PLAGIARISM AND THEFT OF IDEAS

sponsored by the Office of Research Integrity and the American Association for the Advancement of Science will be held **June 21-22, 1993**, at the National Institutes of Health in Bethesda, Maryland. This conference will address issues related to handling allegations of plagiarism and theft of ideas in scientific research. Topics to be discussed include: the intellectual and historical concepts of plagiarism, recent institutional inquiries/investigations of plagiarism, allegations of plagiarism and theft of ideas in peer review, and the role of computers in scientific misconduct. For further information contact: **Alan Price, ORI, 5515 Security Lane, Suite 700, Rockville, MD 20852; Telephone: (301) 443-5330; FAX: (301) 227-0039.**

SCIENCE

can publish YOUR LOGO with your one-column line classified ad. No extra fee is assessed: you will be billed at our regular line rate for the number of lines the logo occupies. For details, call **Classified Advertising: 202-326-6555.**

COMPUTER MARKETPLACE

STATISTICAL SOFTWARE

Accurate, easy to learn. For MS-DOS. Includes t-tests, ANOVA, chi-square tests, DOE, survival analysis, sample size and power analysis, curve fitting, graphics, more. Spreadsheet-style interface. Transfer graphics to other programs. Thousands of users. Base system: \$125. Complete: \$395. Ask for Dr. Hintze (PhD statistician) at (801) 546-0445. FAX: (801) 546-3907. NCSS, 329 North 1000 East, Kaysville, UT. 84037.

Mention this ad to receive 10% discount.

Circle No. 15 on Readers' Service Card

MARKETPLACE

CUSTOM DNA SYNTHESIS

We use Applied Biosystems Synthesizers • Prices from \$2.50 per base plus setup

PAGE and HPLC Purification Available

The Midland Certified Reagent Company

800-247-8766 or FAX 915-694-2387

Circle No. 3 on Readers' Service Card

MARKETPLACE

Custom made
PEPTIDES
Around the globe
\$30.00 /residue
Shipped in 10 days
Your Source of Peptides
BIO-SYNTHESIS
1-800-227-0627 Fax: 214-420-0442

Circle No. 5 on Readers' Service Card

Signal Transduction EIAs

High Sensitivity, Non-Acetylated

cAMP \$345/192 TESTS

800-343-1346-617-497-2070

ADVANCED MAGNETICS, INC.

Circle No. 11 on Readers' Service Card

GROWTH MEDIA IN CAPSULES
FOR BACTERIA & YEAST
More than 100 Molecular Biology Formulations in Stock.
Request comprehensive price list. Custom formulations in 48 hours!
800-424-6101
FAX 619-598-0116

Circle No. 4 on Readers' Service Card

CUVETTES PLUS™

Low Cost, Disposable
Electroporation Cuvettes
Each individual sterile package includes
a pipette for easy sample handling



1-800-289-2465
FAX 619-597-9594

Circle No. 14 on Readers' Service Card

FLUORESCENT MICROSPHERES

Distinctive colors for biology, diagnostics, physiology, aerosols, and filter testing. Diameters from 0.025 to 165 µm in red, green, blue fluorescence. Assorted surface properties for protein coupling. Free catalog available. Toll Free 800-334-3883. In Calif. 415-962-1100. FAX 415-962-0718



1135D SAN ANTONIO ROAD
PALO ALTO, CALIF. 94303

Circle No. 1 on Readers' Service Card

Custom DNA Purified and Delivered in 48 hours.

**\$7.50 per base • Purified
Guaranteed minimum 100 µg DNA**

Research Genetics
1-800-533-4363

Circle No. 2 on Readers' Service Card



INTERNATIONAL HUMAN FRONTIER SCIENCE PROGRAM

REQUEST FOR APPLICATIONS

Research Grants / Fellowships / Workshops 1994

The Human Frontier Science Program (HFSP) aims to promote, through international collaboration, basic research to elucidate the complex mechanisms of living organisms, including man. Applications are solicited for the support of research grants, fellowships and workshops in the areas set out below. The program distributed about \$16 m on new awards this year and aims to spend a similar amount in 1994.

Research Areas of the HFSP

(A) Basic research for the elucidation of brain functions

1. Elementary processes
2. Perception & Cognition
3. Movement & Behaviour
4. Memory & Learning
5. Language & Thinking

(B) Basic research for the elucidation of biological functions through molecular level approaches

1. Expression of Genetic Information
2. Morphogenesis
3. Molecular Recognition & Responses
4. Energy Conversion

Types of Support

Research Grants : Grants for basic research (*up to 3 years*) carried out jointly by research teams in different countries. The principal applicant must be from one of the eligible countries*.

Fellowships : **Long-Term** (*up to 2 years*), **Short-Term** (*up to 3 months*) ; Fellowships for researchers from the eligible countries who wish to do research in foreign countries, or for researchers outside the eligible countries who wish to do research in one of the eligible countries.

Workshops : Grants for international workshops organized by researchers from the eligible countries.

* *Current eligible countries are Canada, France, Germany, Italy, Japan, Switzerland, U.K., U.S.A. and non-summit EC member countries.*

Application Deadline : September 1st, 1993

For Research Grants and Long-Term Fellowships, the awards will be announced in April 1994. Applications for Short-Term Fellowships and Workshops can be submitted throughout the year. Guidebooks and Application forms may be obtained upon written request by using the address form below. Previous years' forms are not accepted.

Request Deadline : August 1st, 1993

Forms for Research Grants & Long-Term Fellowships will **not** be available after August 1, 1993.

Please use the form below to request information (please print).

Last name : _____ First name : _____		<i>Check squares to indicate which program you are interested in.</i>
Institute : _____		
Address : _____		
		<input type="checkbox"/> Research Grant
		<input type="checkbox"/> Long-Term Fellowship
		<input type="checkbox"/> Short-Term Fellowship
		<input type="checkbox"/> Workshop

Request to be sent to: H.F.S.P.O., Tour Europe, 20 place des Halles, 67080 STRASBOURG CEDEX FRANCE
Tel : (France 33) 88 32 88 33 Fax : (France 33) 88 32 88 97
Telematic network information : France (Minitel) 3616 HFSP ; Other countries : Usenet/Bionet

TODAY'S BEST IN A MICROCENTRIFUGE, MORE OR LESS.

Less Noise

Produces less than 60 dBA of noise at top speed—won't disturb the work environment.

Less Waiting

Accelerates to 13,200 rpm in only seven seconds and brakes to stop in 9 seconds. No other micro does quick spins better.

Less Sample Loss

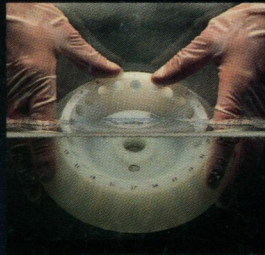
Individual wells fully support microtubes to prevent bending or breaking. Sample may be easily recovered if a tube fails.

Less Maintenance

Cool running brushless motor eliminates the need for routine maintenance. All controls are electronic for long life and accuracy.

If you're looking for more in a microcentrifuge, don't settle for less than the new IEC MicroMax.

Call or write to request a demo today!



Less Contamination

Unique corrosion-free polypropylene rotors are compatible with bleach and Count-off...much easier to clean or decontaminate than aluminum rotors.



More Tubes Per Run

Spins 24 x 1.5 mL, 48 x 0.5 mL or 40 x 0.4 mL and accepts all common microtube formats including screw-cap designs, microtube filters and micro spin columns.

More Separating Power

Forces to 16,250 xg for faster, more complete separations. Produces up to 25% more G's than other routine microfuges.

More Accuracy

Speed is maintained within 10 rpm of set value with no overshoot regardless of rotor used. Run times are ± 1 second for exact replication of runs.

More Convenience

Low profile design and exposed rotor chamber make loading/unloading quick and easy. Cover gently pops open at end of run.

More Useful Features

Unique accel/decel rate controls permit greater flexibility for delicate samples; self-diagnostics prevent errors and simplify service if it's ever needed.

More Value

Outperforms competitive units yet cost about the same or less. Built for years of trouble-free operation.

INTRODUCING

IEC | **MicroMax[®]**
DIGITAL MICROCENTRIFUGE



INTERNATIONAL EQUIPMENT COMPANY

For a Sales Call Circle No. 17

For Literature Only Circle No. 18



300 SECOND AVENUE
NEEDHAM HEIGHTS
MA 02194, U.S.A.
(617) 449-8060
TOLL FREE: (800) 843-1113
FAX: (617) 444-6743