# PRODUCTS & MATERIALS

# Sequence Analysis Software

Version 8.0 of the Wisconsin Sequence Analysis Package is a comprehensive suite of programs for analyzing DNA and protein sequences and searching sequence databases. New programs include BLAST, which searches sequence databases either on your local computer or at the National Center for Biotechnology Information; Prime, which helps select oligonucleotide primers; and Distances and GrowTree, which predict and display phylogenetic trees. The major sequence and pattern databases are included with the package, including GenBank, EMBL, PIR, SWISS-PROT, PROSITE, TFD, and REBASE. The package runs on Digital's VAX and Alpha architectures as well as on Sun, IBM, Silicon Graphics, and Convex. Genetics Computer Group. Circle 139.

# Nonradioactive Protein Synthesis Study

A new nonradioactive system can be used for studying the synthesis of biotinylated proteins in vitro. Through the use of a rabbit reticulocyte lysate as the cell-free system, the ECL translation kit offers the sensitivity of 35S-methionine but with high contrast and high resolution results in just 6 hours. Optimized treatment of the lysate with a calcium-dependent nuclease ensures that endogenous mRNA is destroyed, and hence template translation activity is maximized. Amersham Life Science. Circle 140.

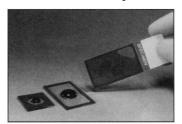
# Luminescent DNA and RNA Detection Kit

The Luminescent DNA/RNA Detection Kit is a complete set of reagents for detecting biotinylated nucleic acid probes hybridized to Northern (RNA), Southern (DNA), colony, and plaque blots. The chemiluminescent detection system, with dioxetane substrate for the alkaline phos-

phatase label, yields subpicogram detection of biotinylated probes. A convenient EconoBlot System reduces the amount of enzyme conjugate used by severalfold. LabLogix. Circle 141.

# Cytochemistry Assay Chambers

Probe-Clip chambers are designed for in situ hybridization, immunocytochemistry, and enzyme/receptor cytochemistry. They eliminate the time-consuming need to silanize coverslips or make



leak-prone wells for incubating cell or tissue specimens with liquid reactants. By pressing a Probe-Clip to a microscope slide containing a cell or tissue specimen, a sealed chamber is formed around the specimen to hold reactants in place and prevent evaporation and spillage. Probe-Clips eliminate the need to use contamination-prone moist chambers, and they facilitate microwave and water bath procedures. Grace Bio-Labs. Circle 142.

# Large Molecule Software

Mulliken is a powerful, versatile quantum chemistry software program that enables chemists to solve practical problems involving large, complex molecules. The program features a graphical user interface that makes prediction and visualization of molecular properties simple, even for first-time users, and a collection

of algorithms that do not break down under complex calculations. CAChe Scientific. Circle 143.

# Lambda Terminase

Lambda Terminase is an endonuclease for specific cleavage of DNA in preparation for chromosomal mapping or generating restriction maps of unknown DNA cloned into cosmid vectors. Lambda Terminase recognizes and cleaves DNA at cos sites, leaving unique 12-base, 5' overhangs. Cosmid restriction maps can be conveniently generated in conjunction with a partial restriction digest, followed by hybridization with a cos site-specific probe. Epicentre Technologies. Circle 144.

# RNase Detection Kit

Two fluorescence-based ribonuclease (RNase) detection kits provide the sensitivity of radioactivity without the use of isotopes. The polarization kit is a homogeneous assay that requires no separation, precipitation, or transfers of the reaction mixture. Sensitivity is less than 1 pg of RNase. The precipitation kit requires no gel electrophoresis and provides quantitative determination in the low picogram range. PanVera. Circle 145.

# Ratio Fluorescence Spectrometer

The RatioMaster Ratio Fluorescence Spectrometer is a versatile instrument for quantitative determination of ions inside living cells. Through use of Fura-2 and other fluorescence probes, a RatioMaster can measure cal-

cium, potassium, magnesium, pH, and other ions in single cells or in cell populations. The Ratio-



Master can be configured as a cuvette system, a microscope photometry system, or an imaging system. Photon Technology International. Circle 146.

# Literature

Biomolecules for Research is a catalog featuring signal transduction reagents. The more than 1000 reagents include antibodies, peptides, inhibitors, activators, second messengers, and receptor ligands. Biomol Research Laboratories. Circle 147.

Millipore Filter Chart is a color wall chart with detailed information on a full range of membrane products, including a low protein-binding membrane and a blotting membrane. Millipore. Circle 148.

Gilson 160 Diode Array Detector is a brochure on an instrument for simultaneous on-line spectrochemical analysis and ultraviolet and visible light high-performance liquid chromatography detection from 190 to 700 nm. Gilson Medical Electronics. Circle 149.

Putting API LC/MS on the Chromatographer's Bench is a brochure on a detector that allows atmospheric pressure ionization (API) liquid chromatography/mass spectrometry (LC/MS) to be taken out of the narrow confines of the traditional mass spectrometry facility. Fison Instruments. Circle 150.

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.

# PERSONNEL PLACEMENT

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# Mail, FAX or Email materials to:

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Internet Email: science\_classifieds@aaas.org

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Credit Cards: Science accepts American Express, 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.

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

## **POSITIONS OPEN**

### SIGNAL TRANSDUCTION CORNELL UNIVERSITY

Applications are invited for the position of ASSIST-ANT PROFESSOR in the Department of Pharmacology at the College of Veterinary Medicine, Cornell University. Candidates using molecular approaches in any area of cell signal transduction will be considered. Responsibilities include the teaching of pharmacology to veterinary and graduate students, participating in the development of a strong graduate student training program in association with our NIH training grant in Biophysical and Biochemical Pharmacology and establishing an outstanding research program. Current research interests in the department include cell regulation, structure and function of receptors and ion channels, membrane-bound and intracellular signalling systems, exocytosis, and trans-epithelial ion transport. Candidates should have the D.V.M., M.D., Ph.D. or equivalent degree, should be firmly committed to an academic career in teaching and research, and have strong or potentially strong research programs. Salary will be commensurate with qualifications and experience. Letters of application, together with a curriculum vitae and three letters of recommendation, a curriculum vitae and three letters of recommendation, should be sent to: Dr. Geoffrey W. G. Sharp, Chairman, Department of Pharmacology, College of Veterinary Medicine, Cornell University, Ithaca, NY 14853-6401. Fax: 607-253-3659. Additional information can be obtained via Email by contacting Mrs. Marge McKinney, at mfml@cornell.edu or through Gopher: zoo.vet.cornell.edu. Cornell University is an Equal Opportunity/Affirmative Action Educator and Employer. Women and minorities are strongly urged to apply.

# ASSISTANT PROFESSOR DEPARTMENT OF MICROBIOLOGY AND CELL SCIENCE

### UNIVERSITY OF FLORIDA

The Department of Microbiology and Cell Science, University of Florida, invites applications for a TENURE-TRACK POSITION available August 1, 1995. This position is equally divided between teaching and research. It includes start-up funds and a salaried technician. The successful candidate is expected to develop an externally funded research program in the area of microbial physiology, microbial ecology, or bioremediation. Teaching responsibilities will include participation in undergraduate and graduate courses, training of graduate students and other University-related activities. Candidates should have a Ph.D. in Microbiology, Biochemistry, or related science and at least two years of postdoctoral experience. The closing date for this position is March 1, 1995. Applicants should submit a curriculum vitae, summary of research interests, and the names of three referees to: Lonnie O. Ingram, Department of Microbiology and Cell Science, Museum Road, P.O. Box 11700, University of Florida, Gainesville, FL 32611-0700. The University of Florida is an Affirmative Action/Equal Employment Opportunity Employer. Minorities and women are encouraged to apply.

ASSISTANT PROFESSOR of Biology: Tenure-track position for a broadly trained Ph.D. Zoologist to begin August 1995. Teaching a combination of general biology, anatomy and physiology, molecular biology techniques is desirable. Development of a research program involving undergraduates is expected. Xavier University is a Jesuit college with an emphasis on quality teaching at the undergraduate level. Applicants should send a letter of application with curriculum vitae, copies of transcripts, and three letters of recommendation to: **Dr**. Linda Finke, Biology Department, Xavier University, 3800 Victory Parkway, Cincinnati, OH 45207-4331.

Xavier University is an Equal Opportunity/Affirmative Action

The University of Virginia, Department of Medicine invites applications and inquiries for a research position in the Division of Nephrology (Ph.D. or equivalent) with appropriate postdoctoral training for a full-time research position at the ASSISTANT/ASSOCIATE PROFESSOR level. Interest/research focus in renal diseases is preferred. Experience with molecular biology, protein chemistry and cell biology preferred. Competitive salary, cnemistry and cell biology preterred. Competitive salary, start-up package and space available. Ability to establish and operate an externally funded research program is expected. For further information contact: W. K. Bolton, M.D., Chief, Division of Nephrology, University of Virginia Houlth, Sciences Canada Page 1222 Virginia Health Sciences Center, Box 133, Charlottesville, VA 22908. The University of Virginia is an Equal Employment Opportunity/Affirmative Action Employer.

## **POSITIONS OPEN**

### ASSISTANT PROFESSOR DEPARTMENT OF NEUROSURGERY

TENURE-TRACK POSITION available for a Ph.D. or M.D./Ph.D. with experience and expertise in conducting laboratory research in molecular and cellular biology with specific emphasis in one or more of the following areas: signal transduction, tumor suppressor genes, or molecular strategies for solid tumor therapy. Experience with brain tumors is encouraged but not required. Salary and benefits are highly competitive. Send curriculum vitae, summary of research interests, and references to: Raymond Sawaya, M.D., Professor and Chairman, Department of Neurosurgery-Box 64, University of Texas M. D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030.

An Equal Opportunity/Affirmative Action Employer. Smoke-free environment.

### INVERTEBRATE AND INSECT SYSTEMATICS HARVARD UNIVERSITY

The Department of Organismic and Evolutionary Biology seeks to appoint two new faculty members at the AS-SISTANT or ASSOCIATE PROFESSOR level. These positions will be filled by specialists in the systematics and evolution of a group of insects and an invertebrate group other than insects or mollusks. The successful candidates will assume curatorial responsibilities for a portion of the collections in the Museum of Comparative Zoology, as well as teach at the undergraduate and graduate lev els. We encourage applications from those with broad els. We encourage applications from those with broad interests in phylogeny and comparative biology, includ-ing those using morphological or molecular approaches. Applicants should submit, by 10 February 1995, a cur-riculum vitae, a statement of research and teaching inter-

ests, and copies of representative publications, and should also arrange to have three letters of recommendation sent to: Professor Michael J. Donoghue, Harvard University Herbaria, 22 Divinity Avenue, Cambridge, MA 02138.

Harvard University is an Affirmative Action/Equal Opportunity Employer. We encourage applications from women and minority

Texas A&M University-Kingsville seeks to hire two tenure-track biologists at the ASSISTANT PROFESSOR level. Successful applicants will have a Ph.D. in the appropriate field, preferably with postdoctoral experience and will be expected to teach advanced courses in their discipline and participate in introductory biology program. Additional responsibilities will include developing a funded research program that employs Master's and un-dergraduate students. Animal Physiologist: We desire a broadly trained individual able to teach courses in Human Anatomy and Physiology, Physiology, Histology, and Embryology. Plant Ecologist/Taxonomist: We seek a field-oriented individual who can teach courses in Plant Taxonomy, Ecology, and advanced courses related to the applicant's area of expertise. Candidates must submit: (1) a letter of application that describes teaching and research interests; (2) transcripts; (3) a curriculum vitae; and (4) three letters of reference. Texas A&M University-Kingsville is an Hispanic-serving institution located in South Texas. The search committee will begin screening applicants on February 15, 1995, and will continue until a suitable pool of applicants is formed. Inquiries should be addressed by February 15, 1995, to: Search Committee, c/o Dr. John C. Perez, Chairman, Department of Biology, Texas A&M University-Kingsville, Kingsville, TX 78363. Telephone: 512-595-3803. Texas A&M University-Kingsville is an Equal Opportunity Employer.

# ASSISTANT AND ASSOCIATE PROFESSORS

The Department of Biochemistry at the University of Kentucky has full-time, tenure-track faculty positions open at the ASSISTANT and ASSOCIATE PROFES-SOR level. The successful candidates will be expected to pursue independently funded research and to participate in departmental teaching activities. Women and minorities are encouraged to apply. Interested persons should submit their curriculum vitae, a summary of research in-terests, and recommendation letters from at least three references to: Faculty Search Committee, Department of Biochemistry, University of Kentucky Medical Center, Lexington, KY 40536-0084.

An Equal Opportunity/Affirmative Action Employer.

### FUNGAL GENETICIST ASSISTANT PROFESSOR OF BOTANY

The Department of Botany at the University of Wyoming seeks applicants who work on the genetics of fungi for a nine-month, tenure-track position at the ASSIST ANT PROFESSOR level. Applicants who can relate their work to organismal biology and who use modern molecular techniques are especially encouraged to apply. Preference will be given to individuals who complement existing strengths in mycology, ecology, systematics, evolutionary biology, cell biology, and physiology. The position begins in the fall of 1995, and the successful candidate will be expected to teach introductory genetics, participate in the general biology program, and develop a graduate course. A vigorous, externally funded, research program is expected and a commitment to graduate and undergraduate education is required. A Ph.D. degree is required, and postdoctoral experience is desired. Applicants should submit curriculum vitae, transcripts, statements of teaching and research interests, and representative reprints; and should have three letters of reference sent by 15 February 1995 to: Dr. Ronald L. Hartman, Genetics Search Committee Chair, Department of Botany, University of Wyoming, Laramie, WY 82071-3165. The University of Wyoming is an Affirmative Action/Equal Opportunity Employer.

### MICROBIAL PHYSIOLOGY

The Department of Microbiology and Immunology, University of North Dakota invites applications for a tenure-track faculty position at the rank of ASSISTANT PROFESSOR in the area of the molecular, genetic or cellular aspects of microbial physiology. The successful candidate is expected to establish an independent, externally funded research program complementing existing research in the department. Teaching responsibilities include a course in general microbiology and the development of a graduate course in bacterial physiology.

ment of a graduate course in bacterial physiology.

Candidates must have a Ph.D. in Microbiology or a related field and relevant postdoctoral experience. Applicants should submit a curriculum vitae, a two page statement of research interests, two representative publications and three letters of reference to: Dr. James J. Kelleher, Chair, Search Committee, Department of Microbiology and Immunology, School of Medicine, University of North Dakota, Grand Forks, ND 58201. Review of applications will begin March 1, 1995. The University of North Dakota is an Equal Opportunity/Affirmative Action Employer.

# ASSISTANT PROFESSOR DEPARTMENT OF CHEMISTRY THE UNIVERSITY OF TEXAS AT EL PASO

Tenure-track ASSISTANT PROFESSOR position available to begin in the academic year 1995-96. Teaching duties in inorganic, physical or analytical chemistry (plus elementary courses and specialized research areas). A Ph.D is required and postdoctoral experience is preferred. Research interests should be in the areas of inorganic, polymer, materials and/or environmental chemistry. Development of an externally supported research program to include undergraduate, M.S. students (Chemistry) and Ph.D. students (Materials Sciences and Environmental Sciences interdisciplinary programs) required. Send letter of application, curriculum vitae, summaries of research plans and teaching proficiencies, and arrange to have three letters of recommendation sent to: Search Committee, UTEP, Department of Chemistry, El Paso, TX 79968. The University does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.

### FACULTY POSITION IN ANATOMY AND PHYSIOLOGY

The Department of Biology, Middle Tennessee State University, invites applications for a tenure-track position (Number 103270, ASSISTANT/ASSOCIATE PROFESSOR, Ph.D. required by first day of class) available August 1995. Appropriate training to teach courses in anatomy and physiology, histology, and freshman biology. Research/public service is expected. Applicant reviews begin 15 February 1995. Send application referencing position number, proof of eligibility for employment, transcripts, and three letters of reference to: Dr. A. Mills, Committee Chair, Box 60, MTSU, Murfreesboro, TN 37132. Position availability contingent upon funding. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

## **POSITIONS OPEN**

# UNIVERSITY OF OTTAWA HEART INSTITUTE HYPERTENSION RESEARCH PROGRAM

Two faculty positions (ASSISTANT or ASSOCIATE PROFESSOR level) available. Candidates (Ph.D. or M.D./Ph.D.) must have a strong background in: Molecular biology, Cellular Biology or Neurobiology and are expected to establish a strong independent research program relevant to hypertension and to collaborate with other scientists on the study of (brain) ouabain-like compounds.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. Applications (including curriculum vitae, description of prior research experience, current research interests and three references) to: Dr. Yves L. Marcel, Director, Academic Affairs, University of Ottawa Heart Institute, 1053 Carling Avenue, Ottawa, Ontario KIY 4E9 Canada. FAX: 613-761-5281.

Biology, Three Faculty Positions. ASSISTANT PROFESSOR, tenure-track, positions beginning August 1995. Biochemist/Plant Physiologist—Teaching: introductory molecular biology, biochemistry, plant physiology. Terrestrial Vertebrate Ecologist—community level research in mammalogy or herpetology. Teaching: ecology, anatomy and physiology. Aquatic Invertebrate Ecologist—research in aquatic systems analysis. Teaching: invertebrate zoology and limnology/aquatic ecology. Research involving undergraduate/M.S. students required. Postdoctoral experience preferred. Review of applications begins February 17, 1995, and will continue until the position is filled. Send letter of application, curriculum vitae, research and teaching interests and three letters of reference to: Department of Biology, Western Kentucky University, 1 Big Red Way, Bowling Green, KY 42101-3576. Women and minorities are encouraged to apply. Affirmative Action/Equal Opportunity Employer.

### FACULTY POSITION IN MARINE BIOLOGY

The Department of Biology, Middle Tennessee State University, invites applications for a tenure-track position (Number 103370, ASSISTANT/ASSOCIATE PROFESSOR, Ph.D. required by first day of class) available August 1995. Successful applicant will be broadly trained in marine biology, and will teach courses in marine biology, general biology, and develop specialty area. Research/public service is expected. Applicant reviews begin 15 February 1995. Send application referencing position number, proof of eligibility for employment, transcripts, and three letters of reference to: Dr. Dennis Mullen, Committee Chair, Box 60, MTSU, Murfreesboro, TN 37132. Position availability contingent upon funding and final authorization. An Equal Opportunity/Affirmative Adion Employer. Women and minorities are encouraged to apply.

# ASSISTANT PROFESSOR IN IMMUNOLOGY

The Department of Molecular Microbiology and Immunology at Oregon Health Sciences University has two tenure-track openings for a scientist or physician scientist at the ASSISTANT PROFESSOR level. Candidates should hold a Ph.D. and/or M.D. degree and have a strong research background and publication record in immunology. Letters of application should include a curriculum vitae and bibliography, a brief statement of research activities and interests, and names, addresses, and telephone numbers of three references. Send applications by March 1, 1995, to: David C. Parker, Professor, Department of Molecular Microbiology and Immunology, Oregon Health Sciences University, L220, 3181 SW Sam Jackson Park Road, Portland OR 97201-3098. An Equal Opportunity/Affirmative Action Employer.

# CELL/MOLECULAR BIOLOGIST ASSISTANT PROFESSOR

TENURE-TRACK POSITION available fall 1995 in a small, diversified department, emphasizing teaching. Ph.D. required. Development of a research program and university service is expected. Salary competitive. Send résumé, transcripts, statements of research and teaching interests, and three letters of reference to: Biology Search, Personnel Department, Station 21, Eastern New Mexico University, Portales, NM 88130. Telephone: 505-562-2478. Applicant review begins 1 March 1995. Eastern New Mexico University is an Equal Opportunity Employer.

## **POSITIONS OPEN**

### FACULTY POSITION IN GENETICS

The Department of Biology, Middle Tennessee State University, invites applications for a tenure-track position (Number 103120, ASSISTANT/ASSOCIATE PROFESSOR, Ph.D. required by first day of class) available August 1995. The successful applicant must have a broad background in biology with genetics specialization. Research/public service is expected. Applicant reviews begin 15 February 1995. Send application referencing position number, proof of eligibility for employment, transcripts, and three letters of reference to: Dr. Philip M. Mathis, Committee Chair, Box 578, MTSU, Murfreesboro, TN 37132. Position availability contingent upon funding. Email enquiries to RSHOWARD@FRANK. MTSU.BDU. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

# FACULTY POSITION IN MICROBIOLOGY/IMMUNOLOGY

The Department of Biology, Middle Tennessee State University, invites applications for a tenure-track position (Number 103130, ASSISTANT/ASSOCIATE PROFESSOR, Ph.D. required by first day of class) available August 1995. The successful applicant must have a broad background in general microbiology, immunology and general biology. Teaching lecture/laboratory in the above areas, direct student research, and conducting research/public service is expected. Applicant reviews begin 15 February 1995. Send application referencing position number, proof of eligibility for employment, transcripts, and three letters of reference to: Dr. Stephen M. Wright, Committee Chair, Box 60, MTSU, Murfreesboro, TN 37132. Position availability contingent upon funding. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

### FACULTY POSITION IN ANATOMY AND PHYSIOLOGY

The Department of Biology, Middle Tennessee State University, invites applications for a tenure-track position (Number 103360, ASSISTANT/ASSOCIATE PROFESSOR, Ph.D. required by first day of class) available August 1995. Appropriate training to teach courses in anatomy and physiology, pathophysiology, and freshman biology. Research/public service is expected. Applicant reviews begin 15 February 1995. Send application referencing position number, proof of eligibility for employment, transcripts, and three letters of reference to: S. H. Swain, Committee Chair, Box 60, MTSU, Murfreesboro, TN 37132. Position availability contingent upon funding and final authorization. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

ASSISTANT, ASSOCIATE or FULL PROFES-SOR (two positions) (search reopened). The new Center for Pharmaceutical Biotechnology invites applications in biotechnology/pharmaceutics. Ph.D. and postdoctoral experience required. Responsibilities include developing a strong, externally funded research program, and teaching in the graduate and professional pharmaceutics programs. The Center for Pharmaceutical Biotechnology fosters collaboration and cooperation, bringing together campus researchers from the full range of biotechnology-related disciplines. Successful candidates will have tenure-track appointments within the Center and Department of Pharmaceutics and Pharmacodynamics in the College of Pharmacy. Curriculum vitae, description of research interests, and three letters of reference should be forwarded to: Dr. M. E. Johnson, Interim Director, Center for Pharmaceutical Biotechnology, University of Illinois at Chicago, 833 South Wood Street (m/c 874), Chicago, IL 60612-7230. Screening of applications will begin on 30 January 1995 and continue until positions are filled. Affirmative Action/Equal Opportunity Employer.

Blue Mountain Community College is seeking applications for the following TENURE-TRACK POSI-TION: Biology instructor to teach majors and non-majors. Background in field biology with emphasis in animal biology. Will teach lectures and labs. Closes January 31, 1995.

Master's in discipline or equivalent required. College teaching experience preferred. For application information and materials; contact Human Resources at 503-276-1260 x365, 503-276-6523 (FAX); 503-278-2174 (TDD); P.O. Box 100, Pendleton, OR 97801. An Equal Opportunity/Affirmative Action/ADA Employer.

# Postdoctoral Opportunities In The Biomedical Sciences.

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.

# Developmental Neuroscience Phillip G. Nelson, MD, PhD

Position available to develop an independent research program in developmental neurobiology. The research should focus on the development of neurotransmitter phenotypes at the molecular level. The candidate is required to have broad experience in neuroanatomy, neurobiology, molecular biology, and transgenic technology. Laboratory of Developmental Neurobiology (OE-64), NICHD, Building 49, Room 5A38, 49 CONVENT DR MSC 4480, BETHESDA MD 20892-4480.

# DNA Repair Kenneth H. Kraemer, MD

Molecular, cellular and clinical studies of DNA repair in human cancer-prone genetic diseases are being performed. Laboratory studies utilizing shuttle vectors and molecular epidemiology are examining the molecular basis of cellular hypermutability in xeroderma pigmentosum and familial melanoma. Applicants must less than five years of post–doctoral experience. Laboratory of Molecular Carcinogenesis (OE-64), NCI, Building 37, Room 3E24, Bethesda, MD 20892.

# Epidemiology and Statistics of Communication Disorders Howard J. Hoffman, MA

The prevalence and determinants of communication disorders are investigated, including epidemiologic, clinical and experimental research into diagnosis, treatment, causes and prevention of disorders of hearing, balance, smell, taste, voice, speech and language. National health interview and examination statistics are analyzed and correlated with behavioral, demographic, environmental, and biological risk factors. Applicants must have less than five years of postdoctoral experience. Epidemiology, Statistics and Data System Branch (OE-64), NIDCD, EPS Building 430, 6120 Executive Boulevard MSC 7180, BETHESDA MD 20892-7180.

# Genetic Disorders of Bone Joan C. Marini, MD, PhD

The molecular biology of genetic disorders of bone is being studied to understand how collagen mutations result in defective extracellular matrix, with an emphasis on osteogenesis impecta. There is a strong emphasis on molecular therapeutics for dominant disorders. Projects include antisense suppression, generating murine model of non-lethal OI and biology of OI osteoblasts. Position requires broad experience in molecular biology and biochemistry, less than five years postdoctoral experience and US citizenship or permanent residency required. Human Genetic Branch (OE-64), NICHD, Building 10, Room 9S242, 10 CENTER DR MSC 1830, BETHESDA MD 20892-1830.

## Molecular Genetics David A. Nielsen, PhD

The regulation of genes involved in serotonin metabolism and function in the CNS and their influence on behavior are being investigated. The focus is on tryptophan hydroxylase and serotonin receptors. A background in molecular biology (gene expression, *in vitro* transcription, transgenic animals, tissue culture) and biochemistry (protein

phosphorylation and purification) is highly desirable. Applicants must have less than five years of postdoctoral experience. Laboratory of Neurogenetics (OE-64), NIAAA, Flow Building, Room 2, 12501 Washington Avenue, Rockville, MD 20852.

# Molecular Mechanisms of DNA Repair, DNA Replication, and Toxin Action Eric J. Ackerman, PhD

The molecular biology of vertebrate DNA repair is being investigated with particular emphasis on the role of single-stranded to double-stranded replication. Repair of damaged DNA substrates is studied both in injected Xenopus oocytes and efficient extracts. Additional projects involve elucidating the elucidating the molecular mechanisms by which toxins disrupt cellular protein synthesis. Applicants must have less than five years postdoctoral experience. Office of the Director, Division of Intramural Research(OE-64), Building 5, Room 411, 5 CENTER DR MSC 0580, BETHESDA MD 20892-0580.

# Signal Transduction and Molecular Biology Kuo-Ping Huang, PhD

Signal transduction pathway leading to the control of gene expression and neural function are being investigated. Developmentally regulated neurogranin gene is being used as a model for testing the specificity of the various PKC isozymes in transcriptional control. Phosphorylation of several newly identified PKC substrates is being studied to correlate with the actions of neurotransmitter and growth factor. Applicants should have less than five years of postdoctoral training. Endocrinology and Reproduction Research Branch (OE-64), NICHD, Building 49, Room 6A36, 49 CONVENT DR MSC 4510, BETHESDA MD 20892-4510.

# Additional Postdoctoral Fellowship Opportunities

For an on-line listing of additional postdoctoral openings, you may access the NIH EDNET Bulletin Board POSTDOC conference via Internet (wylbur.cu.nih.gov) or modem (1,301-402-2221 or 1,800-358-2221) with parameters set at "7,Even,1". When connected to NIH, type in ",vt100" for terminal emulation, "F5E" for initials, and "AJL1" for account number.

The Postdoctoral Research Fellowship Opportunities catalog, which describes intramural laboratories at the NIH, is also available by request. An electronic version of the catalog may be accessed via the Internet using either the Gopher Information System (gopher.nih.gov) or the World Wide Web (http://www.nih.gov). When connected, select Research Opportunities at the NIH Office of Education. If you would like to request a catalog or have further questions, please contact the Office of Education, Building 10, Room 1C129, 10 CENTER DR MSC 1158, BETHESDA MD 20892-1158, 301-496-1603, Fax 301-402-0483.

# To Apply

If you hold a doctoral degree (e.g., PhD, MD/PhD, MD, DO, DDS, DMD 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

Office of Education

# FACULTY POSITIONS DEPARTMENT OF BIOLOGICAL SCIENCES UNIVERSITY OF MASSACHUSETTS LOWELL

Two TENURE-TRACK POSITIONS available fall 1995. As it continues its reorganization, the Department of Biological Sciences is seeking two Ph.D. faculty experienced with methods in molecular biology and biochemistry. Research interests should complement those of senior and recently recruited faculty in areas that include, but are not limited to, eukaryotic gene expression and environmental biotechnology. Candidates should have a good publication record and will be expected to maintain extramural funding, direct student research, and teach at the graduate and undergraduate level. On-campus opportunities exist for collaboration with the Massachusetts Bioprocess Development Center, the Center for Tropical Diseases, and the Center for Polymer Degradation. Proximity to the Boston/Cambridge/Worcester academic and industrial communities facilitates the development and maintenance of collaborations with area scientists. Dedication to excellence in teaching and research is essential. A curriculum vitae with a statement of research interests, reprints of three relevant publications and the names, addresses and telephone numbers of at least three references should be forwarded to: Dr. Robert D. Lynch, Chairman, Department of Biological Sciences, University of Massachusetts Lowell, One University Avenue, Lowell, MA 01854. Telephone: 508-934-2870; FAX: 508-934-3044. Application deadline is March 1, 1995. The University is committed to diversity in its faculty and student population and encourages applications from women and minority candidates. Position is contingent upon funding. The University of Massachusetts Lowell is an Equal Opportunity/Affirmative Action, Title IX/ Disabled/Veterans/ADA 1990 Employer.

# FACULTY POSITION IN SYSTEMS NEUROPHYSIOLOGY OR NEUROETHOLOGY

The Department of Biology at the City College of the City University of New York seeks a Neurophysiologist working at the systems level who has a strong independent research program. Preference will be given to one whose research would predispose her/him to interact with other neurobiologists in the department, who work on the visual and oculomotor systems and on development. Successful applicants will be expected to teach both undergraduate and Ph.D. level courses. However, teaching loads are compatible with a strong departmental commitment to investigator-initiated research.

City College offers an active research environment in an urban setting with students of multi-ethnic backgrounds. This is a TENURE-TRACK POSITION, and rank and salary will be \$29,931 to \$74,980 commensurate with experience. Applicants are required to have a Ph.D. and postdoctoral experience at the time of application. They should send a curriculum vitae, a statement of research interests and the names of three references by February 15, 1995, to: Dr. Sharon Cosloy, Chair, Neurobiology Search Committee, Biology Department, City College of New York, Convent Avenue at 138th Street, New York, NY 10031. An Affirmative Action/Equal Opportunity Employer. Reasonable accommodations provided for individuals with disabilities upon request.

# BRANDEIS UNIVERSITY MOLECULAR NEUROBIOLOGY

The Biology Department and Center for Complex Systems are re-opening the search for a tenure-track ASSISTRANT PROFESSOR position in molecular neurobiology, and invite applications for this position. All aspects of this neurobiological area will be considered, but we are particularly interested in candidates who are studying the regulation of expression of genes and proteins within nervous systems and excitable cells. Responsibilities will include teaching at both the undergraduate and graduate levels. Applicants should have at least two years of post-doctoral experience; should send a curriculum vitae as well as a statement of research interests; and should arrange for at least three letters of recommendation. Have all such application materials sent to:

Neurobiology Search Committee Center for Complex Systems Brandeis University 415 South Street Waltham, MA 02254-9110

The deadline for applications is January 16, 1995. Brandeis is an Equal Opportunity/Affirmative Action Employer. Brandeis University encourages women and minorities to apply.

### **POSITIONS OPEN**

Malaspina University-College, Department of Biology, is offering a new, innovative B.Sc.-Biology degree program, subject to funding approval. We are accepting applications for three FULL-TIME PERMANENT POSITIONS which begin September 1995.

1. Geneticist/Biochemist to teach second year genetics, and third and fourth year courses in biochemistry, advanced genetics and developmental biology. First year involvement may be required. Ph.D. in either genetics or biochemistry with broad background in both genetics and biochemistry, and proven expertise in molecular techniques required. Competition 94-4066.

2. Physiologist to teach second year introductory plant

 Physiologist to teach second year introductory plant and animal physiology and an advanced course in cell physiology, plus selected topics courses. First year involvement may be required. Ph.D. in either animal or plant physiology required. Competition 94-4067.

3. Microbial Ecologist to teach advanced courses in microbial ecology and bacterial genetics. Duties include assisting other faculty specializing in terrestrial/aquatic ecology and fisheries biology/limnology in order to team teach courses in these areas. Additional teaching duties may be required at the first and second year levels. Ph.D. in Microbiology with an emphasis in microbial ecology required. Competition 94-4068.

The successful candidates will be expected to work as team members. Malaspina is dedicated to excellence in teaching and is student-centered. Although the primary role of faculty is to teach, they are expected also to be involved in a research program. Forward application quoting the appropriate Competition Number before 1:00 p.m. Friday, February 24, 1995, to: Director of Personnel, 900 Fifth Street, Nanaimo, B.C. V9R 5S5 Canada. Malaspina University-College regrets that only candidates selected for interview will be contacted. Malaspina University-College is committed to the principle of employment equity and encourages applications from women, persons with disabilities and members of visible minorities. A day-care facility is located on commus.

Biologist: Full-time, tenure-track, ASSISTANT PROFESSOR position beginning late August 1995. Primary duties include teaching courses in introductory biology and development of a research program involving graduate and undergraduate students. Ph.D. in Biology or related field, and demonstrated excellence in teaching required; postdoctoral experience preferred. Preference given to applicants with interdisciplinary experience who can contribute to the anticipated development of an integrated science curriculum for non-majors. Qualified applicants should submit a letter of intent, curriculum vitae and names/addresses of three references by February 15, 1995, to: M. E. Hight, Biological Sciences, Marshall University, Huntington, WV 25755. Telephone: 304-696-6692; Email: Hight@Marshall.EDU. Marshall University is an Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.

# UNIVERSITY OF MASSACHUSETTS

The Department of Polymer Science and Engineering at the University of Massachusetts at Amherst invites ap plications for a tenure-track FACULTY POSITION in polymer physics or physical chemistry. Appointments will be considered at any level, depending on the qualifica tions of the candidate. It is anticipated that the successful candidate will supervise an active experimental research program in the application of physical methods to the exploration of the behavior of macromolecules. Vigorous participation in the teaching activities of the department is also expected. Please send a résumé, a brief statement of teaching and research interests, and three letters of recommendation to: Professor M. Muthukumar, Department of Polymer Science and Engineering, University of Massachusetts, Amherst, MA 01003. The deadline for receipt of applications is February 1, 1995; 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, and applications from women and members of minority groups are encouraged.

BIOLOGY PROFESSOR: Requires Master's degree with a major and/or 18 graduate hours in biology from a regionally accredited institution. Only complete packets will be considered—letter of interest, résumé, and photocopy of graduate transcript. Deadline to apply: 5:00 p.m. February 22, 1995. Collin County Community College, Human Resources Office, 2800 East Spring Creek, Plano, TX 75074. An Affirmative Action/Equal Opportunity Employer.

### **POSITIONS OPEN**

# MCGILL UNIVERSITY FACULTY OF DENTISTRY

Applications are invited for full-time RESEARCH/TEACHING POSITIONS in the Faculty of Dentistry, McGill University. Two categories of individuals will be assessed: 1) Ph.D.-trained individuals who can bring expertise in a basic science applicable to health science; 2) clinically trained individuals, ideally with a Ph.D. who are eligible for dental licensure in Quebec. These individuals will interact with clinical dental staff, research hospital staff, and the university research community to generate research ideas, collaborate in oral-facial problems (e.g., material science, molecular biology, neurosciences) and teach at the undergraduate and graduate levels. Candidates are expected to obtain external research funding.

The University is committed to equity in employment. Furthermore, in accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. Applications will be considered until March 30, 1995, or until the positions have been filled, and should be sent to the following address, accompanied by a detailed curriculum vitae and the names and addresses of two referees: Executive Planning Committee, Faculty of Dentistry, 3640 University Street, Suite M/28, McGill University, Montreal, QC H3A 2B2 Canada.

### BIOLOGY

Molecular Biologist. TENURE-TRACK. Fall 1995. Applicants should be seeking a career at an institution whose primary mission is teaching. Teach an upper-level molecular biology course and teach and coordinate a multi-section introductory human anatomy and physiology course. Develop a research program that includes undergraduates. Ph.D. in biological science and demonstrated excellence in teaching are required. Rank and salary dependent upon experience. Screening will begin immediately and continue until position is filled. Send letter of application, curriculum vitae, three letters of recommendation, and transcripts to: Dr. Jean Kreizinger, Chair, Department of Biological and Environmental Sciences, Western Connecticut State Unviersity, 181 White Street, Danbury, CT 06810. An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

### SEA OTTER RESEARCH AND CONSERVATION PROGRAM MANAGER

The Monterey Bay Aquarium seeks an individual with exceptional leadership qualities to direct its sea otter research and conservation programs. The candidate will be expected to develop and implement a program plan that integrates scientific research with the aquarium's sea otter exhibit and conservation programs. Responsibilities include administrative oversight of the sea otter program, scientific oversight of in-house and visiting investigator research, working with state and federal agencies, obtaining extramural support and contributing to the aquarium's education programs. Requirements include a Ph.D. or equivalent plus five years of experience in marine mammal science, wildlife management and/or rehabilitation, highly effective communication skills. This is a two-year term appointment with promotion to regular status dependent upon satisfactory development and implementation of program goals. Submit letter of application, curriculum vitae and three letters of recommendation to: Human Resources, Monterey Bay Aquarium, 886 Cannery Row, Monterey, CA 93940. Review of applications will begin on February 15, 1995. The Monterey Bay Aquarium is an Equal Opportunity Employer.

# PROFESSOR AND CHAIRMAN THE LAUTENBERG CENTER FOR GENERAL AND TUMOR IMMUNOLOGY

The Hebrew University Hadassah Medical School Jerusalem

Nominations and applications for CHAIRMAN of the Lautenberg Center as successor to Dr. David W. Weiss are invited by February 15, 1995. The successful candidate will have a record of major accomplishment in science and evidence of ability to nurture, coordinate, and lead a research center dedicated to immunology, molecular biology and tumor biology. Candidates should send a curriculum vitae, bibliography, and a brief exposition of general directions in research that offer promise. Address applications to: Lautenberg Center Scientific Advisory Committee, Box 1129, Mount Sinai Medical Center, NY, NY 10029.

# Virologist

# Molecular Virology and Host Defense

SmithKline Beecham Pharmaceuticals, a worldwide leader in pharmaceutical research and anti-infectives, is seeking an Investigator to join the product support function of our Molecular Virology and Host Defense Department.

In conjunction with other scientists, the selected candidate will: plan, supervise and implement product support activities for anti-herpes compounds; contribute to our expanding efforts to discover novel antivirals; identify key experimental needs and conduct appropriate studies; coordinate the work of numerous outside investigators; apply knowledge of *in vitro* and *in vivo* models of virus infection, biochemistry, and molecular tools to expand the profile of antiviral compounds; and will present the results of your work at scientific meetings.

Qualified candidates will have a Ph.D. (or equivalent) in Virology; a minimum of 3-5 years' postdoctoral experience in studies of herpes viruses, preferably related to drug profiling or mechanisms of action; scientific achievement as evident from publications, patents, abstracts and presentations; excellent communication skills; and the ability to work effectively with individuals of varied backgrounds and disciplines. Industry and supervisory experience preferred.

Located in our modern, state-of-the-art research facility in suburban Philadelphia, SmithKline Beecham offers an excellent compensation/benefits/relocation package. Interested candidates should send resume with salary requirements to: SmithKline Beecham Pharmaceuticals, Job Code #H0226, P.O. Box 679, Conshohocken, PA 19428. We are an Equal Opportunity Employer, M/F/D/V.

# SB SmithKline Beecham

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# MOLECULAR VIROLOGY

# **Postdoctoral Position**

Positions are available to study the molecular pathogenesis of influenza virus. The research involves virus assembly in relation to influenza pathogenesis or the molecular basis of host range restriction of the virus. The candidate will receive training in state-of-the-art molecular and immunological techniques, including reverse genetics, that are being used to address these questions. Interested individuals should send their curriculum vitae and the names of three references to:



Dr. Yoshihiro Kawaoka Dept. of Virology and Molecular Biology

St. Jude Children's Research Hospital 332 N. Lauderdale P.O. Box 318 Memphis, TN 38101-0318

Research Hospital

An equal opportunity, affirmative action employer. Women and minority candidates are encouraged to apply.

# The perfect environment for the world's most advanced research.

Los Alamos National Laboratory is the birthplace of many of the technologies which drive the technical and economic advancement of our country. At Los Alamos, this starts with research into the basic sciences and extends into a myriad of innovative programs and projects.

# We're Los Alamos.

# **Technical Staff Member**

The successful candidate will conduct independent research with the goal of identifying, purifying, and characterizing new gene products involved in cell cycle check points, regulation of cell division, and/or DNA repair and as a principal investigator, organize the antibody production component of a team research effort in cancer cell biology. Additional responsibilities include publishing peer reviewed research papers, providing oral and written reports, contributing to ongoing proposals, identifying program development opportunities and obtaining financial support for an independent research program. The position requires research accomplishments, both independent and collaborative, as evidenced by a strong publication record. Recent experience in antibody production, demonstration of successful application of this technology in mechanistic cell biology, and broad research experience in molecular biology, genetics and biochemistry. Experience in technical management of research programs, supervision of personnel, ability to write proposals, ability to work in an interactive team environment, and strong oral and communication skills required. To formally apply, interested candidates should forward a resume to Staffing, (MS P286), Human Resources Division 120756-94087, Los Alamos National Laboratory, Los Alamos, NM 87545. Affirmative Action/Equal Opportunity Employer. Individuals with disabilities needing reasonable accommodation should call (505) 667-8622. A Teletype Device for the Deaf (TDD) is available by calling (505) 665-5357. Los Alamos National Laboratory is operated by the University of California for the US Department of Energy.

Los Alamos

### CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

CDC in Atlanta, Georgia, invites applications for the following position: DIRECTOR, National Center for Health Statistics (NCHS). The Director, NCHS, provides leadership in the design, development, and operation of statistical and information systems that guide actions and policies to improve the health of the American people. NCHS has approximately 600 employees in disciplines such as medicine, statistics, demography, epidemiology, health services research, and computer science in Hyattsville, Maryland, and Research Triangle Park, North Carolina. The multi-faceted programs of NCHS include the coordination of national vital, health, and health-related statistics progams, classification of diseases, consultation on national and international health statistics policies, and conducting basic and applied research in health information systems and statistical methodology.

Qualifications include in-depth knowledge of health statistics programs, broad knowledge of public health programs related to disease prevention, and proven ability to provide administrative and scientific leadership for a multidisciplinary health program. A doctoral degree (M.D., Ph.D. or equivalent) is desired. This Senior Executive Service position is in the career civil service with an annual basic salary range of \$92,900 to \$115,700. Members of the Commissioned Corps of the Public Health Service are also eligible to apply. Physicians may be eligible for a comparability allowance of up to \$20,000 per year. Interested applicants may send their curriculum vitae and names of three professional references postmarked by February 28, 1995, to: Nancy Peterson, Human Resources Management Office, Mailstop D01, Centers for Disease Control and Prevention (CDC), 1600 Clifton Road, N.E., Atlanta, GA 30333. Telephone: 404-639-3614. CDC is an Equal Opportunity Employer and provides a smoke-free work environment. This is a critical-sensitive position requiring an investigation and drug test for a security dearance.

# FOREST MANAGEMENT AND POLICY POSITION AT YALE UNIVERSITY

The Yale University School of Forestry and Environmental Studies and School of Management seek jointly to appoint a tenured **PROFESSOR** of Forest Management and Policy. Responsibilities of the position will include: development of a research program, presentation of graduate courses/seminars, advising Master's and doctoral students, and facilitating collaboration within Yale and with industry and other external organizations. A doctoral degree and professional experience consistent with a senior faculty appointment are required.

Please send curriculum vitae, statement of research and teaching interests, the names and addresses of three references, and samples of academic and professional work to: Professor William H. Smith, Chair, Forest Management and Policy Search Committee, Yale University, School of Forestry and Environmental Studies, 370 Prospect Street, New Haven, CT 06511.

Deadline for receipt of applications is March 3, 1995, or until suitable candidates are found. The position will be available July 1, 1995. For further information about the position described above call 203-432-5149 or 203-432-5155. Yale University is an Equal Opportunity/Affirmative Action Employer. Women and minority group members are encouraged to apply.

## ECOLOGIST UNIVERSITY OF MINNESOTA

The Long-Term Ecological Research program at Cedar Creek Natural History Area seeks a RESEARCH DI-RECTOR to perform project administration and management as well as research in her/his area of specialty. This renewable professional academic position can include appointment to the Graduate Faculty in Ecology. The Dr. Dr. in ecology or related fields is required. Research experience in ecosystem ecology, belowground processes, biodiversity, or landscape ecology is preferred, but those with experience in other areas of ecology are encouraged to apply. Please submit a curriculum vitae, reprints/preprints, and a statement of interests and goals, and have three letters of recommendation sent to: G. David Tilman, 100 Ecology Building, 1987 Upper Buford Circle, University of Minnesota, St. Paul, MN 55108 by February 17, 1995.

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

## **POSITIONS OPEN**



# ENDOWED PROFESSORSHIP EXPERIMENTAL PATHOLOGY

The Department of Pathology, College of Medicine of the University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, is seeking an individual at the level of PROFES-SOR who has made significant research contributions in his/her field. This tenure-track position is in experimental pathology and we seek candidates with expertise in the areas of Neuroscience, Vascular Cell Biology, Immunology, or Inflammation and Repair. The successful candidate will be expected to establish and maintain a vigorous and funded research program and participate in teaching at the graduate level.

Candidates should have a M.D., Ph.D., or equivalent. Submit a curriculum vitae, a concise description of research interests and goals, and the names, addresses, and telephone and FAX numbers of three references to: Dr. L. E. De Bault, Chair of Search Committee, Department of Pathology, P.O. Box 26901, Oklahoma City, OK 73190. Telephone: 405-271-2422. FAX: 405-271-2568. Deadline for receipt of applications is February 27, 1995.

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

# WILLIAM G. ALLYN CHAIR IN MEDICAL OPTICS

### THE INSTITUTE OF OPTICS UNIVERSITY OF ROCHESTER Endowed Professorship in Medical Optics

The Institute of Optics invites nominations and applications for a new endowed **PROFESSORSHIP** in Medical Optics. The successful candidate will be expected to have achieved international prominence in some aspect of medical optics, and to merit appointment at the level of full professor. He or she will be expected to conduct a vigorous program of research and to participate actively in The Institute's undergraduate and graduate teaching programs in optical science and engineering. The Institute of Optics, an academic department offering B.S., M.S., and Ph.D. degrees in Optics, has approximately 120 undergraduate students and 85 graduate students in residence. The University's Medical Center and Center for Visual Science offer significant opportunities for collaborative research projects that involve the application of optical science, engineering, and technology to important areas of modern medicine.

and technology to important areas of modern medicine.

Each application should include a letter describing teaching and research interests, a curriculum vitae, and the names of three references. Nominations and applications should be sent to:

### Professor Dennis G. Hall, Director The Institute of Optics University of Rochester Rochester, NY 14627

The University of Rochester is an Affirmative Action/Equal Opportunity Employer

### THOMAS ENDOWED CHAIR DEPARTMENT OF BIOLOGY GEORGIA SOUTHWESTERN COLLEGE

The Department of Biology invites applications for the RUSSELL AND MARGARET THOMAS ENDOWED CHAIR, a tenure-track position available September 1, 1995. The Ph.D. is required. The person filling this position is expected to bring a high level of expertise, and to develop research, in an area of biology complementary to the existing program. Teaching responsibilities will include both introductory and upper-level biology courses. Salary and rank are commensurate with experience.

es. Salary and rank are commensurate with experience. Applicants should submit curriculum vitae, including unofficial transcripts; a statement of professional goals; and names, addresses, and telephone numbers of at least three references to: William L. Tietjen, Chairman, Department of Biology, Georgia Southwestern College, Americus, GA 31709. Telephone: 912-931-2253. Closing date is February 13, 1995.

## **POSITIONS OPEN**

ASSOCIATE DEAN
College of Agriculture and Life Sciences
and
DIRECTOR

North Carolina Cooperative Extension Service North Carolina State University Raleigh

Applications are invited for this administrative position. Incumbent will have primary leadership responsibilities for all aspects of the North Carolina Cooperative Extension Service, report to the Dean of the College and serve with the Associate Deans for Academic Programs and Research as a member of the Dean's Administrative Team. The Director represents the Cooperative Extension Service at the state, regional, national and international levels and works closely with the heads of 22 departments, extension staffs in 100 counties, the Cherokee Reservation and a diverse state clientele to provide the highest quality extension programs. Responsibilities include program development, formulation of budget proposals, allocation of funds, employment, evaluation, promotion of faculty and staff and program coordination, promotion of faculty and staff and program coordination, and outreach with administrators in the Colleges of Forest Resources and Veterinary Medicine and North Carolina Agricultural and Technical State University. Candidates must have an earned doctorate, demonstrated relevant administrative experience and demonstrated accomplishments in his/her professional discipline. Submit by March 15, 1995, a letter of application, brief statement of administrative philosophy, résumé, names, addresses and telephone numbers of five references to: Dr. J. C. Wynne, Chair, Search Committee, Box 7643, North Carolina State University, Raleigh, NC 27695-7643. Telephone: 919-515-2717. An Equal Opportunity/Affirmative Action Employer.

# EXECUTIVE DIRECTOR ARCHBOLD BIOLOGICAL STATION

Archbold Biological Station seeks applicants for the position of EXECUTIVE DIRECTOR and SENIOR RESEARCH BIOLOGIST. Archbold is a private, nonprofit research institute located in central Florida near the southern end of the Lake Wales Ridge, an area rich in biotic endemism. The Station is dedicated to long-term ecological research and monitoring, conservation and land-management, and environmental education at all levels. A 2,000 hectare natural preserve surrounds outstanding laboratory and housing facilities. Research of staff and associates emphasizes plant and animal demography, invertebrate systematics, community ecology, fire ecology, chemical ecology, and conservation biology. The Station manages an additional 6,000 hectares of natural and semi-natural habitat nearby, including a 4,000 hectare working cattle ranch on which research in agroecology is carried out. Funding for Archbold's programs includes endowment income, grants and contracts, fees, and donations. The Executive Director reports to a Board of Trustees (Archbold Expeditions, Inc.). Besides providing leadership in research, conservation, and education, the Executive Director is responsible for oversecing budgets and a staff of about 50. Opportunity exists for adjunct faculty status at area universities. Applicants must have a Ph.D., a strong background in ecological research, and demonstrated administrative experience. Send letter, curriculum vitae, and list of references to: Executive Search Committee, Archbold Biological Station, P.O. Box 2057, Lake Placid, FL 33862-2057, by 31 January 1995.

POSTDOCTORAL POSITION for Transgenic Studies in Cellular and Molecular Neurobiology—The Department of Neurobiology has postdoctoral positions available to study various aspects of molecular, cellular and developmental neurobiology. Some major areas of interest are cell-cell and cell-substratum adhesion molecules, neurite outgrowth and nerve regeneration. Specific studies include: analysis of overexpression, mutation or deletion of adhesion molecules in animals, analysis of genes such as Hox and Pax, that control the expression of adhesion molecules and their subsequent roles in the formation of morphogenetic pathways during neural development; identification of signal transduction pathways and the gene programs activated by adhesion molecule binding. Applicants should have a strong background in cellular and/or molecular biology. Send curriculum vitae and three letters of reference to: Dr. Gerald M. Edelman, Chairman, Department of Neurobiology, The Scripps Research Institute, 10666 North Torrey Pines Road SBR14, La Jolla, CA 92037. Affirmative Action/Equal Opportunity Employer.

# Imagine The Possibilities

At Berlex, we've built our reputation on FDA-approved product successes and a proven track record in the pharmaceutical industry. Currently, we are seeking an Associate Scientist/Scientist to provide administrative and team direction to our Cell Culture Core Facility in the beautiful San Francisco Bay Area.

# ASSOCIATE SCIENTIST/SCIENTIST-Cell Culture

You will ensure that the Cell Culture Core Facility carries out its responsibilities, drawing on your expertise in cell culture techniques, including cell proliferation assays, primary cell establishment, growth media optimization, and mammalian cell transfection. You will also supervise, train and develop staff, participate in routine cell culture activities when needed, and act as a resource for the Cell and Molecular Biology Department. Along with an MS or PhD in the Biological Sciences, we require 4+ years' experience in the characterization of mammalian cells in culture and prior supervisory/managerial skills. Excellent interpersonal abilities are required; retroviral infection experience and computer proficiency are desired.

As a US subsidiary of an international Fortune 500 company, Berlex is proud to offer competitive salaries and a generous benefits package. To apply, send your CV/ resume to: BERLEX, HUMAN RESOURCES EMPLOYMENT, DEPT. B94-055, 15049 SAN PABLO AVE., RICHMOND, CA 94804-0099. Principals only, please. EOE.



THE BEST IS YET TO COME

# MICROBIOLOGIST (IMMUNOLOGY)

PATHOGENESIS AND BASIC RESEARCH BRANCH DIVISION OF AIDS, NIAID, NIH

The National Institute of Allergy and Infectious Diseases, Rockville, Maryland, seek an experienced immunologist (GS-403-13). The base salary range is \$47,920-\$62,293; recruitment bonus may be available. Incumbent will plan, implement and evaluate immunological research in HIV pathogenesis; organize workshops, meetings and collaborative studies; communicate scientific, technical and management information, both within and outside the Division of AIDS, and plan allocation of resources. Applicant must demonstrate knowledge and experience in state-of-the-art immunology, virology and pathogenesis research, and have professional training equivalent to a Ph.D. or M.D., and immunology postdoctoral (or equivalent) experience.

Please send resume and/or SF-171, Application for Federal Employment (reference announcement no. 9492) to:

Ms. Kristie Daniel NIAID Personnel Office Building 31, Room 7A27 Bethesda, Maryland 20892 (301-402-1421)



U.S. citizenship is required.

Applications will be accepted until January 17, 1995.

NIH is an Equal Opportunity Employer

# Massachusetts

# CHEMISTRY FACULTY POSITIONS

The Department of Chemistry seeks to fill several tenure-track faculty positions as part of a multi-year buildup. The first appointments are anticipated to begin in September 1995. Candidates will be considered at both the junior and senior levels. We seek to strengthen existing programs and initiate new ones, with emphasis on the interfaces between chemistry and materials, polymers, biology, and the environment. Please submit a curriculum vitae and statement of research plans, and have three letters of recommendation sent directly to Dr. Bret Jackson, Chair, Faculty Search Committee A, Department of Chemistry, Lederle Graduate Research Tower A, University of Massachusetts, Box 34510, Amherst, MA 01003-4510. Evaluation of applications is currently in progress, and will continue until all positions are filled. Salary and rank commensurate with qualifications and experience.

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

# POSTDOCTORAL POSITION

# Molecular & Cellular Cardiology

Postdoctoral position available to study the molecular and cell biology of excitation-contraction coupling in



the heart. The applicant will have the opportunity to work with cloned expressed calcium channels using techniques of molecular

and cell biology as well as cellular electrophysiology (see *Cell* 77:513-523). Strong background in molecular biology is preferred. Please send a curriculum vitae, statement of research interests and three letters of reference to: Andrew R. Marks, M.D., Co-Director, Molecular and Cellular Cardiology, Box 1269, Brookdale Center for Molecular Biology, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029-6574, fax (212) 241-0309. An Equal Opportunity Employer.

The Mount Sinai Medical Center of New York

# MOLECULAR MICROBIAL PHYSIOLOGIST

The Dow Chemical Company's Bioproducts Laboratory which is part of our Central Research and Development organization in Midland, Michigan, is seeking a Molecular Microbial Physiologist for a Post-Doctoral Position.

Applicants must have a Ph.D. in microbial physiology, molecular biology or a related field. A preference will be given to individuals with 1-2 years of industrial experience. Qualified candidates should have demonstrated competence in gene isolation/cloning methodologies, microbial (prokaryotic) gene expression and/or metabolic engineering and high-cell density fermentation.

Responsibilities will include the exploration of novel mechanisms and methods for controlling carbon utilization and growth of industrial microorganisms. In addition, investigations will be carried out to identify novel molecular approaches to low-cost, high-cell density fermentation processes.

The Dow Chemical Company provides a stimulating and challenging scientific environment which allows for both scientific and professional growth. In addition, we offer a competitive salary and benefits. Please send your resume to: Technical Recruiting, Department MMP-1, The Dow Chemical Company, Employee Development Center, Midland, MI 48674. An Equal Opportunity Employer M/F/D/V.



The Dow Chemical Company

### CHAIR

### DEPARTMENT OF NEUROBIOLOGY UNIVERSITY OF PITTSBURGH SCHOOL OF MEDICINE

Nominations and applications are requested for a CHAIRPERSON to lead the growth and development of a newly created Department of Neurobiology in the School of Medicine. The department will occupy new research space in the recently constructed Biomedical Science Tower. The ideal candidates will hold an advanced degree (Ph.D., M.D. or both) and will have a vigorous research program at the molecular and cellular level, with demonstrated leadership ability in fostering faculty development and graduate and medical student education, and bridging basic and clinical sciences. We are particularly interested in further promoting the area of developmental neurobiology, although candidates actively researching other areas of neurobiology will be considered. The new chairperson will be responsible for faculty recruitment and for interfacing the department with various University of Pittsburgh Medical Center departments, institutes and centers. This twelve-month tenured professor position will have a salary commensurate with the experience of the individual and can be occupied as soon as possible. To ensure full consideration, applications should be received by April 1, 1995.

Interested persons should submit a letter of intent and curriculum vitae to: Dr. Joseph Glorioso, Chairman of the Search Committee, Department of Molecular Genetics and Biochemistry, E1246 Biomedical Science Tower, University of Pittsburgh School of Medicine, Pittsburgh, PA 15261. Telephone: 412-648-8106.

Women and minorities are encouraged to apply. The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.

**DEAN**—Medical College of Pennsylvania and Hahnemann University School of Medicine—The Medical College of Pennsylvania and Hahnemann University have recently consolidated and the new institution is seeking nominations and applications for the position of Dean of the School of Medicine. Nominees and applicants must hold a doctoral degree in biomedical sciences (M.D., Ph.D. or equivalent) and have a distinguished record of scholarly and professional accomplishments appropriate for tenure within the University. We seek an individual whose vision and management skills will stimulate and shape the growth and stature of the School of Medicine at a time of immense change within the University and in the health care environment at large. Candidates must have a demonstrated record of effective recruitment and retention of outstanding faculty and staff and the ability to recognize and support excellence and diversity within the faculty. In addition, candidates must also embrace an educational philosophy that emphasizes the essential integration of research, teaching and patient care, and must have the ability to articulate that philosophy effectively. Nominations and applications will be accepted until January 31, 1995, and will be reviewed beginning immediately ately. Nominations and applications should be sent to the attention of Leslie Anne Miller, Esq. at the Medical College of Pennsylvania and Hahnemann University School of Medicine, 3300 Henry Avenue, Philadelphia, PA 19129, c/o Ms. Jane Underwood. The Medical College of Pennsylvania and Hahnemann University is an Affirmative Action/Equal Opportunity Employer.

### ASSISTANT PROFESSOR MICROBIOLOGIST EXTENSION OF SEARCH

The Department of Natural Sciences at the University of North Florida is extending the search for a microbiologist and invites applications for this TENURE-TRACK POSITION beginning in fall 1995. A Ph.D. in microbiology or a related field is required. Applicants must demonstrate a strong commitment to undergraduate teaching and the ability to conduct meaningful research involving undergraduates. Teaching experience and the potential for extramural funding are valued. Teaching responsibilities for the academic year include some combination of microbiology, immunology, virology and introductory biology. Applicants must submit a letter of application, curriculum vitae, concise statements of teaching and research interests, undergraduate and graduate transcripts, up to three representative publications, and have three letters of reference sent to: Joseph A. Butler, Search Committee, Department of Natural Sciences, University of North Florida, Jacksonville, FL 32224-2645. Postmark deadline is February 20, 1995. The University of North Florida is an Affirmative Action/Equal Opportunity Employer.

### **POSITIONS OPEN**

### DEPARTMENT CHAIR/PROFESSOR DEPARTMENT OF CHEMISTRY THE UNIVERSITY OF TEXAS AT EL PASO

Qualifications include Ph.D. in Chemistry, administrative experience, excellent interpersonal skills, and professional/scientific credentials to lead a department with a strong record of teaching and research with undergraduate and graduate students. The area of research specialization should lie within the materials and/or environmental sciences fields. Present departmental goals include continued emphasis on undergraduate research and active participation in two interdisciplinary Ph.D. programs (Materials Sciences; Environmental Sciences and Engineering). The educational, outreach and developmental goals of the University of Texas at El Paso include significant commitments within the binational areas of the United States and Mexico in which the Chair will participate. Please submit curriculum vitae, statement regarding teaching and administrative leadership, statement of research plans, and listing of three references (name, address, telephone) to: Chemistry Chair Search Committee, UTEP, Department of Chemistry, El Paso, TX 79968. The University does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.

# BRANDEIS UNIVERSITY POSTDOCTORAL AND PREDOCTORAL POSITIONS The Sloan Center for Theoretical Neurobiology

Available immediately: POSTDOCTORAL and PREDOCTORAL POSITIONS in computational neuroscience within a laboratory setting. This program is designed to bring theorists with strong mathematical and computational skills in direct contact with experimental techniques and results. Research areas range from studies of single channels and neurons to the dynamics and function of invertebrate and vertebrate neural networks. The core faculty of the Sloan Center for Theoretical Neurobiology at Brandeis University include: Larry Abbott, Irv Epstein, Irwin Levitan, John Lisman, Eve Marder, Chris Miller, Sacha Nelson and Gina Turrigiano.

Candidates are expected to have a background in quantitative and computational science and an interest in applying these methods to problems in experimental neuroscience. For additional information postdoctoral candidates can contact one of the participating faculty or Marder@binah.cc.brandeis.edu. Predoctoral candidates should apply to the Neuroscience Ph.D. program. For applications: Neuroscience Graduate Program, Volen Center, Brandeis University, Waltham, MA 02254 USA or cabral@binah.cc.brandeis.edu.

Yolen Center, Brandeis University, Waltham, MA 02254 USA or cabral@binah.cc.brandeis.edu.

Applications from women and minority candidates are especially welcome. Brandeis University is an Equal Opportunity/Affirmative Action Employer.

### INTERVERTEBRAL DISC RESEARCH Department of Orthopaedic Surgery Carolinas Medical Center

POSTDOCTORAL POSITION available immediately to study the cell biology of the intervertebral disc cell in humans and animal models. Expertise in tissue culture, cytokines and molecular biology required; previous experience with connective tissue matrix desirable. Well-supported lab offers opportunity to participate in ongoing research with a clinical focus and to develop publication and grant-writing skills. Candidates must possess a Ph.D. in an appropriate field with experience in the above areas of research. Research is under the direction of Dr. Helen Gruber. To apply, send curriculum vitae, transcripts, names of three references and a brief statement of past research participation to: Human Resources, Charlotte-Mecklenburg Hospital Authority, P.O. Box 32861, Charlotte, NC 28232-2861. An Equal Opportunity Employer.

POSTDOCTORAL POSITION. NIH-funded fellowship, restricted to American citizens or permanent residents, to study the genetic basis of large cell transformation in cutaneous T-cell lymphoma. Experience in molecular biology required. Send curriculum vitae and references to: Stuart R. Lessin, M.D., Department of Dermatology, University of Pennsylvania, 217 Clinical Research Building, 422 Curie Boulevard, Philadelphia, PA 19104. FAX: 215-898-0201. An Equal Opportunity Employer.

### **POSITIONS OPEN**

The Biology Department at Syracuse University is seeking Teaching/Research POSTDOCTORAL ASSOCIATES in Biology and Evolutionary Biology. The Post-doctoral Associate for Evolutionary Biology will be responsible for teaching a one-semester course in Evolution for undergraduates. Balance of time will be devoted to research with one of six faculty members in Population Biology; with research interests in Ecological Genetics, Molecular Evolution, Behavioral Ecology, Plant Physiological Ecology, Community and Ecosystems Ecology, and Animal Physiological Ecology. Appointment is for up to three years with a preferred starting date of August 28, 1995.

The Postdoctoral Associate for Biology will contribute to the research and teaching activities of the department. Candidate will be expected to aid in the development and administration of a one-semester introductory Biology course for majors, stressing the diversity of organisms. Primary responsibility will be to guide students in laboratory and field projects, exploring how organisms monitor and respond to their environment. These teaching responsibilities will occur from July to December. Balance of time can be devoted to research with a faculty member, or to assist in design and development of new laboratory courses. Applicants should have a disciplinary focus at the organismal level. Appointment is for up to three years and will begin July 1, 1995. Candidates interested in the position in Evolutionary Biology, send detailed curriculum vitae and names of three references to: Professor William T. Starmer, Department of Biology, Syracuse University, Lyman Hall, 108 College Place, Syracuse, NY 13244. Candidates interested in the position in Biology, send detailed curriculum vitae and names of three references to: Professor H. Ernest Hemphill, Biological Research Laboratories, Syracuse University is an Affirmative Action/Equal Opportunity Employer.

### POSTDOCTORAL POSITION ENDOTHELIAL BIOLOGY AND ACE EXPRESSION DEPARTMENT OF PATHOLOGY EMORY UNIVERSITY

An NIH-funded position is immediately available to study the molecular regulation of angiotensin converting enzyme (ACE) expression by endothelial cells. These cells express ACE only when they are confluent and nonproliferative. The project is to try to understand the biochemistry of how endothelium stop proliferating. Applicants will be expected to work with graduate students and technicians and to take a substantial role in developing a program investigating ACE expression by vascular tissues. Applicants should have a Ph.D. or M.D. with experience in molecular biology and an interest in growth regulation or vascular biology. Send curriculum vitae, reprints and references to:

Ken Bernstein, M.D. Room 711 WMB Emory University Atlanta, GA 30322

Emory University is an Equal Opportunity Employer.

### POSTDOCTORAL POSITION Molecular Biology of Fertilization-Associated Ion Channels

A position is available immediately for a Molecular Biologist to study the structure and function of mammalian sperm cation and Ca<sup>2+</sup> channels that are activated by adhesion to the egg's extracellular matrix (zona pellucida). Prior experience with mammalian expression systems is desirable, but not required. Please send recent curriculum vitae and the names of three references to: Dr. Harvey M. Florman, c/o Human Resources Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545 USA.

An Equal Opportunity/Assirmative Action Employer/Minority/Female/Disabled.

# POSTDOCTORAL POSITION IN CANCER RESEARCH

Available immediately for Ph.D. or M.S. for studies on the role of P450 and GSTs in extrahepatic cancer. Experience in molecular biology techniques essential and in P450 desirable but not required. Mohamadi A. Sarkar, Ph.D., West Virginia University, School of Pharmacy, P.O. Box 9530, Morgantown, WV 26506. Telephone: 304-293-7611; Email: msarkar@wvnvm.wvnet.edu.



# Center for Structural Biology FACULTY POSITIONS: NUCLEAR MAGNETIC RESONANCE

The Center for Structural Biology of the College of Medicine, University of Florida currently has openings for faculty conducting innovative research emphasizing nuclear magnetic resonance. The Center is associated with the University of Florida Srain Institute (UFBI) and with the National High Magnetic Field Laboratory (NHMFL), jointly run by Florida State University, the University of Florida, and the Los Alamos National Lab. The Center is an interdisciplinary program with emphasis on understanding of biological function by determining high-resolution structures of large biological molecules and assemblies, studying cell structure and function, and the morphology and physiology of the whole organism. Within the Center, advanced spectroscopic, diffraction, and imaging techniques (nuclear magnetic resonance, optical microscopy, and electron microscopy; X-ray crystallography is being planned) are used to derive molecular-based information related to cellular, tissue, and organism-level structure and function. The Center houses NMR spectrometers (Varian Unity 300 and Unity 600) used for macromolecular structure determination and microscopy, as well as an imaging spectrometer (a 12 T, 40 cm system to be installed in 1997) for animal research. Also the Center uses a 4.7T, 33 cm animal system and a 3 T whole-body system (to be installed in 1995) for research. In addition, Center faculty use prototype magnets and spectrometers located at the NHMFL Tallahassee site, including a wide-bore 600 MHz and 720 MHz high-resolution spectrometer, with other magnet systems operating at higher fields.

Faculty are being recruited in two areas: 1) high-resolution macromolecular NMR spectroscopy and 2) MR imaging and spectroscopy in living systems. Interested persons are invited to apply for tenure-track faculty positions, at any level, with direct association to the National High Magnetic Field Laboratory. Applicants at the assistant professor level need extensive experience with NMR at the postdoctoral or more advanced level with interest in developing and expanding experimental techniques. In addition, applicants at the associate and full professor level need to have an established program with extramural funding. Successful candidates will conduct innovative research emphasizing NMR and will use the facilities of the Center for Structural Biology, with additional support provided through the facilities of the NHMFL and the UFBI. Opportunities exist for collaborative research in areas such as biochemistry, cell biology, contifive neuroscience, pharmacology, or physiology.

and the UFBI. Opportunities exist for collaborative research in areas such as biochemistry, cell biology, cognitive neuroscience, pharmacology, or physiology. Applicants must have Ph.D. Degree and a min. 1 yr. post-doc experience. Submit C.V. with statement of research interests and three letters of reference by Feb. 15, 1995. Anticipated starting date on or before Sept., 1995; salary commensurate with experience. All correspondence should be sent to Thomas H. Mareci, Ph.D., Director, Center for Structural Biology, College of Medicine, University of Florida, Box 100245, Gainesville, Florida, Box 100245, Gainesville, Florida is an Affirmative Action-Equal Opportunity employer, and applications from minorities and women are strongly encouraged. Gainesville is an attractive University community in North-central Florida with good low-cost housing, quality public schools, and many outdoor activities.

# FACULTY POSITIONS DEPARTMENT OF BIOLOGY TEXAS A&M UNIVERSITY

We invite applications for two tenure-track faculty positions in the areas of plant molecular biology and animal developmental biology. The successful candidates are expected to develop nationally recognized research programs, to teach at both the undergraduate and graduate levels, and to complement current strengths in microbial, plant and animal biology. Applicants must have a Ph.D. (or equivalent degree) and postdoctoral experience.

# Plant Molecular Biology

We are seeking an outstanding molecular biologist studying fundamental problems of plant biology. The successful candidate will be housed in a new, multi-disciplinary plant biotechnology center. Special consideration will be given to candidates applying molecular genetic approaches to study plant development or signal transduction in an advanced model, such as *Arabidopsis*. Applicants should submit a curriculum vitae, a description of research and teaching interests, and the names, addresses and telephone numbers of three referees to: Jim Carrington, Chair, Plant Molecular Biology Search Committee, Department of Biology, Texas A&M University, College Station, Texas 77843-3258. FAX: (409) 845-2891. E-mail: carrington@bio.tamu.edu.

# Developmental Biology

We are seeking an outstanding scientist studying fundamental problems of animal development at the cellular, molecular and/or genetic levels. We are particularly interested in candidates studying a model system such as zebra fish or *Xenopus* to take advantage of our extensive aquatic facilities. However, consideration will also be given to other applicable systems. Applicants should submit a curriculum vitae, a description of research and teaching interests, and the names, addresses and telephone numbers of three referees to: Vincent M. Cassone, Chafr, Developmental Biology Search Committee, Department of Biology, Texas A&M University, College Station, Texas 77843-3258. FAX: (409) 845-2891. E-mail: vrnc@bio.tamu.edu.

Closing date: February 15, 1995, or until position is filled.

Texas A&M University is an Equal Opportunity/Affirmative Action employer.

# Postdoctoral Research Fellowships

The PARKE-DAVIS Pharmaceutical Research Division of Warner-Lambert has initiated a multidisciplinary postdoctoral research program which provides exciting opportunities to conduct basic studies in areas of potential therapeutic utility. The following Fellowships are currently available in the Pathology and Experimental Toxicology Department:

# **Mechanisms of Cellular Injury**

The Fellow will be involved in investigating drug-induced changes of cellular organelles resulting in cell injury. Studies will include determination of cellular function using fluorescent and confocal microscopy and biochemical assays. In vitro approaches will be used, primarily involving hepatocytes.

Applicants should have a Ph.D. in toxicology or related field, with experience in cell culture techniques and microscopy and/or biochemistry.

# **Gastrointestinal Toxicity of Peptide Hormone Antagonists**

The Fellow will investigate biochemical, cellular, and physiologic mechanisms underlying gastrointestinal effects of peptide hormone antagonists. Studies will utilize a combination of in vivo and in vitro approaches to explore secretory and trophic effects of GI hormones and their modulation by specific peptide hormone antagonists.

Candidates should have a Ph.D. in toxicology or a related field and the ability to integrate biochemical, cellular, and physiologic approaches to problem solving. Specific experience with biochemical techniques, including an interest in molecular biology, would be advantageous.

# Toxicologic Pathology

The Fellow will be involved in characterization of effects of recombinant human epidermal growth factor (rhEGF) in tissues of rodents and primates. In vivo and in vitro studies will involve the application of histomorphometry, immunohistochemistry, transmission electron microscopy, and in situ hybridization in delineating tissue responses. Cell proliferation markers (BRDU and PCNA) will be used to determine rhEGF-sensitive cell populations.

Applicants should possess a D.V.M., M.D. or Ph.D. degree with advanced training in histology/pathology and experience in techniques listed above.

# Mechanisms of Pancreatic Cell Proliferation and Carcinogenesis

The Fellow will investigate the role of oncogenes, tumor suppressor genes and mechanisms of pancreatic cell proliferation and carcinogenesis in in vitro and in vivo models. Modern approaches to cell and molecular biology will be used to identify and clone novel genes involved in the transformation process.

Applicants should have a Ph.D. in biochemistry, molecular biology, experimental pathology, toxicology or a related field. A strong background in molecular biology is required.

Qualified candidates should send curriculum vitae and references to: Box JDM-PET, PARKE-DAVIS Pharmaceutical Research, Warner- Lambert Co., 2800 Plymouth Road, Ann Arbor, MI 48105. "Smoke-Free Work Environment"



"Equal Opportunity in Action"

### POSTDOCTORAL POSITION

Position available in the laboratory of Dr. John Krupinski at the Weis Center for Research in Danville, Pennsylvania. The successful applicant will have a Ph.D. in biochemistry, cell biology, or pharmacology with experience in molecular biology. The project will involve the expression and characterization of novel forms of adenylyl cyclase (see *J. Biol. Chem.*, 267:24858–24862 and *J. Biol. Chem.*, 269:12190–12195). Emphasis will be placed on determining those structural features of the adenylyl cyclases responsible for mediating unique physiological effects. The Weis Center is a well-equipped, modern research facility in a semi-rural environment. Competitive salary and fringe benefits are available. Please send curriculum vitae with the names and telephone numbers of three references to: Geisinger Human Resources (JK), 100 North Academy Avenue, Danville, PA 17822-1529. Equal Opportunity Employer. Minorities/Female/Disabled/Veterans.

POSTDOCTORAL POSITIONS available to candidates with experience in biochemistry of signal transduction for two different projects: (1) to study pathways that mediate neurite growth stimulated by neuronal activity and (2) to investigate regulation of voltage-sensitive calcium channels by ethanol. Experience with molecular biology, especially in regulation of gene expression, preferred. Fellowship salary is \$27,000 to \$30,000 and includes health insurance. Send curriculum vitae, summary of research experience and names of three references to Dr. Robert Messing, Department of Neurology, Ernest Gallo Clinic and Research Center, University of California, San Francisco, Building 1, Room 101, 1001 Potrero Avenue, San Francisco, CA 94110. Affimative Action/Equal Opportunity Employer.

# POSTDOCTORAL RESEARCH POSITION IN p53-Dependent Stem Cell Regulation

Position available immediately for recent graduates trained in biochemistry, cell biology and molecular biology. Utilization of novel p53-inducible cell lines to investigate the regulation of stem cell division by the antion-cogene via a guanine nucleotide-dependent mechanism. Interested graduates should forward curriculum vitae and three letters of reference to: James L. Sherley, M.D., Ph.D., c/o Human Resources Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. An Equal Opportunity Employer.

Two POSTDOCTORAL POSITIONS are available immediately in the Vascular Cell Biology Laboratory, Texas Heart Institute, for persons trained in Molecular/Cell Biology, Biochemistry or related disciplines to study (1) Fibroblast Growth Factor Receptor related signaling mechanisms in vascular smooth muscle and endothelial cells and (2) Ligand mediated gene therapy approaches for inhibition of restenosis. Applicants should send a complete curriculum vitae including the names and telephone numbers of three references to: Carolyn Williams, Vascular Cell Biology Department, Texas Heart Institute, P.O. Box 20345, MC 2-255, Houston, TX 77225.

POSTDOCTORAL POSITION available immediately for an outstanding individual to study the molecular mechanisms of cell cycle control and differentiation of lymphocytes with emphasis on immunologic systems. Candidates should have a strong background in Molecular Biology and Biochemistry. U.S. permanent residency is required. Send curriculum vitae and the names of three references to: Dr. Alan D. Schreiber, University of Pennsylvania Cancer Center, 7 Silverstein-4283, 3400 Spruce Street, Philadelphia, PA 19104. FAX: 215-662-4079.

POSTDOCTORAL POSITION available immediately to study the molecular and cellular biology of uroepithelial differentiation. A strong background in molecular biology (Ph.D.) is required. The candidate will be in a stimulating intellectual environment and will have the opportunity to collaborate with a diverse faculty of basic scientists at Harvard. Medical School. Send curriculum vitae and names of three references with telephone numbers to: Dr. Anthony Atala, Laboratory for Tissue Engineering, Children's Hospital and Harvard Medical School, 300 Longwood Avenue, Boston, MA 02115.

## **POSITIONS OPEN**

# POSTDOCTORAL POSITION MOLECULAR PATHOLOGY AND GENETICS

Applicants are invited to participate in NIH-funded studies of HIV-1 genetic variability as related to maternal-infant transmission and viral pathogenesis. Send résumé including names and telephone numbers of three references by February 1, 1995, to: Dr. Maureen M. Goodenow, University of Florida College of Medicine, Box 100275, Gainesville, FL 32610. FAX: 904-392-0481.

### POSTDOCTORAL POSITION CATALYTIC RNA

Positions are available to study the mechanism of group II intron self-splicing, or to study the regulation of premRNA alternative splicing. Interested applicants should send a curriculum vitae, a statement of research interests and names of at least three references to: Kevin Jarrell, Ph.D., Department of Pharmacology and Experimental Therapeutics, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118.

# POSTDOCTORAL POSITION AUTOIMMUNITY

NIH-funded research to study basic mechanisms of SLE (J. Exp. Med., 177:1367, 1993; J. Immunol., 152: 1462, 1994). Experience in immunology required. Send résumé to: Dr. Syamal K. Datta, Professor of Medicine and Microbiology-Immunology, Arthritis Division, Ward 3-315, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately to study molecular regulation of apo B mRNA editing. Projects include characterization of the apo B mRNA editing enzyme (Science, 260:1816), targeted expression in liver cells (JBC, 269:5932) and gain/loss of function through transgenic/ES cell technology. Solid background in molecular biology/genetics required. Send curriculum vitae and three references to: Dr. Nicholas O. Davidson, University of Chicago, FAX: 312-702-2182. Email: akomins@medicine.bsd.uchicago.edu. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL ASSOCIATE—Massachusetts Institute of Technology—A position is available in the Harvard-MIT Division of Health Sciences and Technology for an experimental scientist with skills in: analytical biochemistry (HPLC, GPC, FPLC), animal experimentation and biomedical polymer material science. Please send a curriculum vitae with three references to: Drs. Larry Brown and Elazer Edelman, MIT, Biomedical Engineering Center, Room 20A-124, Cambridge, MA 02139. FAX: 617-253-2514. MIT is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION. A postdoctoral position is available for a recent biophysics Ph.D. with experience in lipid-protein interactions. Projects in the lab include spectroscopic studies on the mechanism of viral spike glycoprotein-mediated membrane fusion and membrane protein folding. Please send curriculum vitae, a brief description of previous research experience and the names and addresses of three references to: Dr. Lukas K. Tamm, Department of Molecular Physiology and Biological Physics, University of Virginia, Health Sciences Center Box 449, Charlottesville, VA 22908.

POSTDOCTORAL POSITION to study new mouse model of chronic granulomatous disease, an inherited human disorder characterized by deficient phagocyte superoxide generation. We are studying the role of superoxide in inflammation and infection, and the impact of cytokines and gene replacement therapy. Experience with animals preferred. Send curriculum vitae and three references to: Dr. Mary C. Dinauer, Wells Center for Pediatric Research, Indiana University School of Medicine, 702 Barnhill Drive, Room 2600, Indianapolis, IN 46202-5225.

POSTDOCTORAL POSITION to study the regulation of gene expression and chromatin structure in erythroid cells. The research utilizes biochemical and molecular genetic approaches to study the structure and mechanism of the human  $\beta$ -globin locus control region. Send curriculum vitae and the names of three references to: Dr. Emery Bresnick, University of Wisconsin Medical School, Department of Pharmacology, Cell and Molecular Biology Program, 1300 University Avenue, Madison, WI 53706.

# **POSITIONS OPEN**

### POSTDOCTORAL POSITION

The Gladstone Institute Of Cardiovascular Disease, University of California, San Francisco. In the lab of Robert V. Farese, Jr., M.D. for research on the role of apolipoprotein B, lipids and lipoproteins in mouse development. Current projects include a wide range of methods to characterize developmental defects in apo-B knockout mice. Candidates should possess a Ph.D. of M.D./Ph.D. Experience with transgenic mice, molecular biology, and/or developmental biology is desirable. Send curriculum vitae, and names of three references to: Postdoctoral Recruitment, Gladstone Institute, UCSF, P.O. Box 419100, San Francisco, CA 94141-9100. An Affirmative Action/Equal Opportunity Employer.

# POSTDOCTORAL POSITIONS GENE TRANSFER

To study mechanisms of gene transfer and expression in cultured cells and in animals, with potential application to gene therapy (see Science, 261:209, 1993; JBC, 268:16087, 1993; PNAS, 89:11277, 1992). Seek scientists with extensive experience in 1) molecular biology: for the design of novel expression vectors; 2) cellular and sub-cellular biology; and 3) molecular biology and the neurosciences. Please send curriculum vitae and names of three references to: Dr. Robert Debs, Cancer Research Institute, Box 0128, UCSF Medical Center, San Francisco, CA 94143-0128.

### NEUROSCIENTIST

JUNIOR FACULTY or POSTDOCTORAL POSITION available to study local signaling between neurons and astrocytes using in vivo and in vitro preparations. (See: Science, 263:1768-1771, 1994). Experience in neuronal cell biology, imaging techniques and/or electrophysiology is required. Submit curriculum vitae and reference list to: Maiken Nedergaard, M.D., Ph.D., Department of Cell Biology and Anatomy, New York Medical College, Basic Science Building, Valhalla, NY 10595. FAX: 914-993-4653.

POSTDOCTORAL or RESEARCH ASSOCIATE position available immediately to study the regulation of endothelial cell function by specific growth factors. Ph.D. and experience in molecular biology or biochemistry are required. The position involves independent research as well as collaborations. Send curriculum vitae and names of three references to: Dr. Florence M. Hofman, Department of Pathology, University of Southern California Medical School, 2011 Zonal Avenue, Los Angeles, CA 90033.

## POSTDOCTORAL RESEARCH ASSOCIATE

The Henry M. Jackson Foundation for the Advancement of Military Medicine is seeking an individual to work in the laboratory of **Dr. Fred Finkelman** at the Uniformed Services University of the Health Sciences (USUHS). The incumbent will use flow cytometry to study the effects of membrane Ig crosslinking, cytokines, and CD40 litigation on B cell lifespan *in vivo*. Must be familiar with immunology and flow cytometry and be willing to relocate. Interested individuals should send a résumé and cover letter to:

Human Resources Department
Position No. PL2940360
The Henry M. Jackson Foundation for the
Advancement of Military Medicine
1401 Rockville Pike, Suite 600
Rockville, MD 20852

An Affirmative Action/Equal Opportunity Employer

# POSTDOCTORAL FELLOWSHIPS IN CARDIOVASCULAR DEVELOPMENT, UCSF

NIH-funded fellowships available in early and perinatal cardiovascular development (e.g., cardiac morphogenesis, endothelial function, gene regulation, signal transduction) in a multidisciplinary group of molecular biologists/physiologists. Candidates must have a Ph.D. or M.D., interest in basic molecular biological/physiological research, and commitment to an academic career. U.S. citzenship or permanent residency status required. Applicants send curriculum vitae, statement of research interests/goals, and three references to: Michael A. Heymann, M.D., 1403 HSE, Box 0544, University of California, San Francisco, CA 94143-0544. The University of California, San Francisco is an Equal Opportunity Employer.

# **IMMUNOLOGIST**

Abbott Laboratories is seeking an IMMUNOLOGIST for its Ross Products Division. The successful candidate will possess at least an M.S. degree with 2-3 years' experience, or a Ph.D. in experimental cellular immunology. A solid background in CMI methods, flow cytometry, and statistical analysis is essential. This position will make significant laboratory and intellectual contributions in cellular immunology to a comprehensive immunology research program. This position will supervise technicians, use PC spreadsheets to manage data, and help maintain our level II biohazard facilities.

Ross Products Division, headquartered in Columbus, Ohio, is the leader in infant and adult nutritionals. We offer an excellent compensation and benefits program. For confidential consideration, direct your CV to: ROSS PRODUCTS DIVISION, Attn: Staff Recruiter, 625 Cleveland Avenue, Columbus, OH 43215. Ross is an EEO and offers a smoke-free environment.



ABBOTT LABORATORIES
ROSS PRODUCTS DIVISION



**ROSS PRODUCTS DIVISION** 

Bio-Méga/

Boehringer

Ingelheim

Research Inc.

A leader in

pharmaceutical

research in

Canada.

# Department of Veterans Affairs Research & Development Program





Dallas Department of Veterans Affairs Medical Center is recruiting for an Associate Chief of Staff (ACOS) for Research. It is closely affiliated with the University of Texas Southwestern Medical Center at Dallas.

The Dallas VAMC Research Program includes nearly 200 active research projects which are being conducted in more than 44,775 square feet of modern research space by 81 active investigators. Included are a Nonprofit Research corporation, an Animal Research Facility, and a very diverse biomedical research program. 1994-1995 funding will exceed \$7 million from VA, NIH and other private and public sources.

The ACOS for Research is challenged to provide the vision, leadership and management for further growth and development of these programs within the context of the new, competitive health care environment. Candidates possessing an MD or MD/PhD are preferred and must also hold the scientific research and academic credentials to qualify for an appointment at University of Texas Southwestern Medical Center. Especially important is a candidate whose communication, administrative and leadership skills are sufficient to implement a strategic plan for a research program which integrates the strengths of our university affiliate with those of this hospital. The ACOS is expected to establish and maintain an externally funded research program at the VA.

Dallas VAMC is located in the suburb of Oak Clift, 7 miles southeast of the University of Texas Southwestern Medical Center. Dallas is truly a "World Class City" offering wonderful neighborhoods and affordable housing in the city or suburbs; outstanding schools; outstanding professional and collegiate athletics; outstanding performing arts including the symphony, opera and theaters; fabulous museums and restaurants.

Qualified candidates should submit a letter of interest and curriculum vitae not later than February 15, 1995 to Stuart I. Myers, M.D., Chief, Surgical Service (112), Department of Veterans Affairs Medical Center, 4500 South Lancaster Rd., Dallas, TX 75216.

# Endowed Postdoctoral Fellowship

Cancer Biology/Radiation Oncology Program

# Cleveland Clinic Research Institute

Postdoctoral position in multidisciplinary group studying the genetic correlates and molecular pharmacology of oncogene-associated apoptosis in irradiated tumor cells and normal tissues. Candidates should have significant experience in molecular biology techniques as applied to tumor suppressor genes and their products.

Send curriculum vitae, research statement, and 2 letters of reference to: Roger Macklis, MD, Chair, Radiation Oncology Department-T28, The Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio 44195. Fax: 216-445-7595.

THE CLEVELAND CLINIC FOUNDATION

In Equal Opportunity Employer M/F/D/V -Smoke-Free Environment

# BIO-MEG

Boehringer Ingelheim Research Inc.

Bio-Méga/Boehringer Ingelheim Research Inc. is one of Canada's leading pharmaceutical laboratories. An opportunity exists for a qualified computational chemist to join our company in its quest for new and innovative pharmaceuticals.

# **Computational Chemist**

The successful candidate will join a multidisciplinary team devoted to structure-based drug design, thereby adding computational chemistry expertise to that of medicinal chemistry, biochemistry, NMR spectroscopy and X-ray crystallography.

The ideal candidate will possess a PhD and have extensive experience in applied molecular mechanics calculations. Knowledge in other areas of computational chemistry will be an asset. Preference will be given to candidates with expertise in modeling enzyme-inhibitor interactions. Strong communication and interpersonal skills are essential.

Bio-Méga/Boehringer Ingelheim Research Inc. offers a competitive compensation and benefits package in addition to the opportunity to work in a pleasant and intellectually stimulating environment.

Interested candidates should send their resume to:

Human Resources Department BIO-MÉGA/BOEHRINGER INGELHEIM RESEARCH INC. 2100 Cunard Street Laval, Quebec H7S 2G5, CANADA Fax: (514) 682-8434

### POSTDOCTORAL FELLOWSHIP ANTARCTIC SEABIRD ECOLOGY AND BEHAVIOR

An opportunity for a two-year POSTDOCTORAL FELLOWSHIP is anticipated with the National Marine Fisheries Service/NOAA, starting in the spring of 1995. The appointee will be expected to lead the seabird component of a research team analyzing and writing-up a nine-year ecological database on seals and penguins. Seabird studies have focused on interannual comparisons of feeding ecology, reproductive success, growth and condition, and demography of chinstrap penguins. Complementary data are available from coordinated research cruises on the distribution and abundance of zooplankton and on oceanographic conditions near the penguin breeding colonies. Candidate should have strong background in avian ecology and behavior, and demonstrated strengths in analysis, writing, and working as a member of a team. Experience with marine ecosystems preferred, Ph.D. required. To express interest in this opportunity, please send detailed curriculum vitae, copies of reprints, and names of three references by 15 January 1995 to: Dr. J. L. Bengtson, National Marine Mammal Laboratory, 7600 Sand Point Way N.E., Seattle, WA 98115. For further information, telephone Dr. Bengtson at 206-526-4016 or Dr. Peter Boveng at 206-526-4244. An Equal Opportunity Employer.

# REYNOLDS RICH SMITH FELLOWSHIP

Harvard Medical School offers the REYNOLDS RICH SMITH FELLOWSHIP for research training in the developmental biology and function of the central nervous system relevant to the prevention and treatment of autism and related diseases. The fellowship is open to individuals who have completed, or are in the process of completing requirements for board certification in neonatology or neurology, and who will devote a majority of their time to training in research with a Harvard Medical School faculty member. The program provides salary, based on level of training and research funds for one year with opportunity for renewals. Applicants should submit curriculum vitae, research proposal (not more than two pages), and a letter from the faculty research sponsor by February 10, 1995, to: Harvard Medical School, Reynolds Rich Smith Fellowship, Joint Program In Neurology, 300 Longwood Avenue, Enders 9, Boston, MA 02115.

### POSTDOCTORAL RESEARCH ASSOCIATE BREAST CANCER UNIVERSITY OF NEW MEXICO

A POSTDOCTORAL RESEARCH ASSOCIATE position is available at the University of New Mexico Health Sciences Center for a scientist to perform research in the area of human breast cancer and biochemical signaling by environmental agents in the laboratory of Scott W. Burchiel, Ph.D., Toxicology Program, 505-277-0920 or FAX: 505-277-6749. A Ph.D. in biochemistry, toxicology, or a related area is required. Please refer to Req. No. 942643-B and send résumé and letter of application by March 15, 1995, to: Human Resources, UNM Health Sciences Center, Medical Building 2, Room 101, Albuquerque, NM 87131. Résumés must list employment dates by months/year and be accompanied by a cover letter with original signature. Equal Opportunity and Affirmative Action Employer.

POSTDOCTORAL FELLOW position available to investigate molecular mechanism of HIV assembly and accessory gene function. Experience in molecular biology and protein biochemistry required. Send curriculum vitae and names of three references to: Dr. N. Landau, Aaron Diamond AIDS Research Center, 455 First Avenue, New York, NY 10016.

POSTDOCTORAL and NRC FELLOWSHIPS for Molecular Immunologists. Phagemid display libraries of Fab proteins will be used to develop reusable immunosensors for detection of toxicants or drugs in environmental samples or bodily fluids. The successful candidate should possess skills in molecular cloning, animal handling, or cDNA library screening. Please FAX curriculum vitae to: Dr. Mohyee Eldefrawi (410-706-8012) or call University of Maryland School of Medicine at (410-706-3564).

### **POSITIONS OPEN**

POSTDOCTORAL FELLOWSHIP in Academia/Industry. Two year fellowship available immediately to work on a joint project between faculty in the Department of Pathology, University of Vermont College of Medicine, and investigators at Wyeth-Ayerst, Drug Safety Evaluation Division in nearby Chazy, New York, across Lake Champlain. Applicants, preferably with training in toxicology or free radical chemistry and biology, will have the unique opportunity to work in our state-of-art Cell Imaging Facility featuring confocal and electron microscopy. Competitive salary. Send letter of application, curriculum vitae, and three letters of recommendation to: Dr. Brooke Mossman, Department of Pathology, Soule Building, University of Vermont College of Medicine, Burlington, VT 05405. FAX: 802-656-8892; Telephone: 802-656-0382. The University of Vermont is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIPS: Available immediately. Investigators of Atherosclerosis Program (Drs. Trudy Forte, Ronald Krauss, and Edward Rubin) are seeking outstanding candidates to develop and study transgenic mice expressing human genes important in atherosclerosis. Projects include (1) structure/metabolism of human apolipoprotein B containing lipoproteins in transgenic mice and (2) HDL structure/metabolism in mice expressing mutations of human apo A-I. Must be permanent resident. Send curriculum vitae and name, address and telephone number of three references to: Ms. Gail Mosley, Administrative Assistant, Life Sciences Division, Lawrence Berkeley Laboratory, One Cyclotron Road, Berkeley, CA 94720. An Equal Opportunity/

POSTDOCTORAL FELLOW—Postdoctoral position beginning July 1995 to study the molecular mechanisms of lung development. This project focuses on the identification and characterization of developmental regulated genes in the lung. Experience in molecular biology required. Please forward curriculum vitae, reprints and three references to: Dr. V.C. Venkatesh, Department of Pediatrics, 212-950 West 28th Avenue, Vancouver, B.C., V5Z 4H4 Canada. Telephone: 604-875-2442; FAX: 604-875-3106. The University of British Columbia welcomes all qualified applicants, especially women, aboriginal people, visible minorities and persons with disabilities. In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

# POSTDOCTORAL FELLOWSHIP

A POSTDOCTORAL FELLOWSHIP is available to study signal transduction through the sphingomyelin pathway, a new signaling system mediating the action of TNF, IL-1 and ionizing radiation. Studies will focus on Raf and MAP kinases, NF-KB and apoptosis in normal and in tumor cells. Please send curriculum vitae to: Dr. Adriana Haimovitz-Friedman, Dr. Zvi Fuks, and Dr. Richard Kolesnick, Memorial Sloan Kettering Cancer Center-Box 280, 1275 York Avenue, New York, NY 10021. Memorial Sloan Kettering Cancer Center is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

# NORTH CAROLINA STATE UNIVERSITY GRADUATE STUDENT ASSISTANTSHIPS

Two graduate student assistantships (\$14,000 per year) leading to the Ph.D. degree in Botany, Genetics or Crop Science are available to conduct research on isolation and characterization of genes involved in biosynthesis of a defensive metabolite (DIMBOA) in maize. Positions are available summer session 1995 for students having a Master's degree or equivalent experience in plant molecular biology. Contact: Scott Chilton, Department of Botany, Box 7612, North Carolina State University, Raleigh, NC 27695. FAX: 919-515-3436; Email: joyce\_bruffey@ncsu.edu (attention: Chilton). An Equal Opportunity Employer.

RESEARCH SCIENTIST M.D./Ph.D. to study anoxic damage in hippocampal slices. Experience with patch clamp, intracellular recording or calcium imaging desirable. Send your curriculum vitae, a letter describing your background and interests and three letters of recommendation to: I. S. Kass, Anesthesiology and Pharmacology Departments, Box 6, SUNY Health Science Center, 450 Clarkson Avenue, Brooklyn, NY 11203. An Equal Opportunity/Affirmative Action Employer.

# **POSITIONS OPEN**

# VEGETABLE CROPS POSTHARVEST HORTICULTURIST

Assistant Cooperative Extension Specialist and Vegetable Crops Postharvest Horticulturist. An 11-month, career-track EXTENSION POSITION. Appointee will develop and implement an extension and applied research program on postharvest physiology and handling of vegetable crops, and conduct an extension program on the transportation and distribution of all horticultural perishables. Appointee will provide statewide Extension leadership, interact with numerous clientele groups, provide farm advisor training and advising, and develop an affir-mative action program. Appointee will have the opportunity to participate in Departmental teaching and in directing undergraduate and graduate research. Requirements include: a Ph.D. or equivalent experience in horticulture, plant science or closely related discipline; demonstrated ability or experience in postharvest biology and technology; an understanding of extension; and a record of scholarly and academic achievement. Send curriculum vitae, statement of research and extension interests, documentation of extension, research, and teaching experience, representative reprints, graduate transcripts, and names, addresses and telephone/FAX numbers of at least three references to: Dr. Marita Cantwell, Search Committee references to: Dr. Marita Cantwell, Search Committee Chair, Department of Vegetable Crops, University of California, Davis, CA 95616-8631. Telephone: 916-752-7305 or 752-1748; FAX: 916-752-9659; Email: micantwell@ucdavis.edu. Open until filled, but to assure consideration, apply by March 15, 1995. The University of California is an Affirmative Action/Equal Opportunity Employer.

### VETERINARY PATHOLOGIST

The Oregon Regional Primate Research Center (ORPRC) has a core STAFF POSITION available May 1995 for a Veterinary Pathologist. Candidates must hold a D.V.M. or equivalent degree, be certified or eligible for certification by the American College of Veterinary Pathologists, and have experience with the pathology of nonhuman primates and other laboratory animals. Primary duties include responsibility for diagnostic pathology service, supervision of pathology and histology laboratories, and interaction with the Center's research staff on matters pertaining to pathology. An individual with experience and interest in participating in collaborative research focusing on lentivirus immunopathogenesis is highly desirable. Joint academic opportunities are available at the nearby Oregon Health Sciences University. Appointment level and salary are commensurate with qualifications. Applicants should submit a résumé, letter of interest, and the names of three references to: Dr. Richard L. Stouffer, Chairman, Veterinary Pathologist Search Committee, Oregon Regional Primate Research Center, 505 NW 185th Avenue, Beaverton, OR 97006. Applications will be accepted until a suitable candidate is identified. The ORPRC is an Equal Opportunity/Affirmative Action Employer.

The Nature Conservancy seeks a LANDSCAPE ECOLOGIST with an advanced degree (Ph.D. preferred) and three years of working experience to be based in its Minneapolis, Minnesota office. The Landscape Ecologist works with Conservancy staff nationally and internationally to utilize the principles of landscape ecology in the design and management of individual nature preserves and systems of preserves. This position brings expertise in landscape ecology to the Conservancy's stewardship program, consults with key staff and partners on issues of site design and ecological modeling and provides consultation and training in landscape-scale ecological processes, patterns and dynamics. This is a two year position with potential for extension. To apply send letter and curriculum vitae to: Steven C. Buttrick, The Nature Conservancy, Eastern Regional Office, 201 Devonshire Street, 5th Floor, Boston, MA 02110-1402.

ASSOCIATE RESEARCH SCIENTIST: Position available for highly motivated M.D. or Ph.D. to work in area of viral pathogenesis. Send curriculum vitae and three letters of reference to: Beth Levine, M.D., Director of Virology Research, Department of Medicine, HHSC 1306, Columbia University College of Physicians and Surgeons, 701 West 168th Street, New York, NY 10032. Columbia University takes affirmative action to ensure equal opportunity. Women and minorities are particularly encouraged to apply.

# Imagine The Possibilities

At Berlex, we've built our reputation on FDA-approved product successes and a proven track record in the pharmaceutical industry. Currently, we are seeking dedicated individuals to join our renowned San Francisco Bay Area team and advance our scientific mission in the following exciting areas.

# ASSOCIATE SCIENTIST

As part of our Molecular Pharmacology team, you will be involved in developing, automating and implementing high-capacity screening (HCS) assays. Along with a BS/MS degree in biological science or a relevant field, you will need 3-5 years' industrial experience using lab automation systems and robotic technologies. Familiarity with PC/Mac applications and excellent interpersonal skills are also required. Dept. B94-047.

# ASSOCIATE SCIENTIST

As a member of our Discovery Research Program, you will help develop new drug discovery technologies that will help solve serious medical problems. Along with a BS/MS degree in biology or biochemistry, you will need at least 4 years of laboratory experience in molecular biology or a biochemistry role. You must also be able to design and interpret experiments and should have a genuine interest in learning the latest techniques in molecular biology, cell biology and biochemistry. Familiarity with PC or Mac applications would be helpful. Dept. B94-048.

As a US subsidiary of an international Fortune 500 company, Berlex is proud to offer competitive salaries and a generous benefits package. To apply, send your resume, referencing the dept. number corresponding with the position of your interest, to: BERLEX, HUMAN RESOURCES EMPLOYMENT, 15049 SAN PABLO AVE., RICHMOND, CA 94804-0099. Principals only, please. EOE.



Pioneer Hi-Bred International, Inc., is a world-wide leader in agricultural genetics. Founded in 1926, we are a publicly-held corporation with research, production, and sales organizations world-wide. Our dynamic RESEARCH and PRODUCT DEVELOPMENT DIVISION is currently seeking motivated and experienced professionals to join us in our on-going program of crop improvement.

# SENIOR RESEARCH ASSOCIATE Cytology/Histology Job #1357 - C

Responsibilities include: fixing, embedding, sectioning, staining, probing with nucleic acids or antibodies, and examining research materials to identify the patterns of expression of plant genes at the cellular level, and reporting the results in both written and image format. The successful candidate will collaborate with several research groups to describe how genes are regulated at the transcriptional and post-transcriptional level, by providing support in traditional and molecular histology. Experience with in situ PCR would be helpful. Minimum requirements include 6.S. degree plus 4 years directly related laboratory experience; or M.S. degree plus 2 years directly related lab experience; or Ph. D.

# SENIOR RESEARCH ASSOCIATE Molecular Genetics Job #1357 - MEEL

Responsibilities include: the application of robotics and PCR technology to isolate transposon-insertion alleles for a multitude of loci in the maize genome. Projects are task-oriented. The successful candidate will complete projects in collaboration with internal and external scientists, assist with additional technology development, and pursue laboratory research interests. Helpful experience includes: PCR techniques, DNA hybridization, use of automated workstations, MAC, PC, and database software for DNA analysis. Minimum requirements include B.S. degree plus 4 years directly related laboratory experience; or M.S. degree plus 2 years directly related lab experience; or Ph.D.

# RESEARCH ASSOCIATE Plant Biochemistry Job #1355 - A

Opportunities for a plant biochemist to work in the general area of crop protection. Responsibilities include isolation and identification of plant metabolites, protein purification, and enzymology. Use of TLC, HPLC, GLC, PAGE, and microcomputers. The successful candidate should have a M.S. or B.S. with 2 years directly related experience with plant metabolites.

# SENIOR RESEARCH ASSOCIATE Molecular Genetics Job #1038

Responsibilities include: assisting in development of sequence based molecular markers; contributing to ongoing laboratory genome analysis projects; designing, implementing and interpreting experiments; conducting greenhouse and field work; utilizing common molecular biology techniques; and utilizing microcomputers for data analysis. Genetic analysis skills desired. M.S. in Molecular Biology or a related field with 2 years experience preferred. Four years genetics or molecular biology laboratory experience with a Bachelors in Molecular Biology or related field acceptable.

We offer excellent compensation, benefits and career growth potential, as well as good facilities and a cooperative research environment. Communication, presentation development, and teamwork skills essential. Please send cover letter indicating job name and job number, two copies of C.V. and two copies of any published articles by February 15 to: Piones Hi-Bred International, Inc., Department of Human Resources, Attn: Dr. Judy Winkelpleck, 6800 Pioneer Parkway - Box 212, Johnston, IA 50131-0212. Applications after this date will be reviewed if a candidate has not been identified. We are an Equal Opportunity Employer.



PIONEER HI-BRED INTERNATIONAL, INC.

# U.S. DEPARTMENT OF ENERGY ASSOCIATE DIRECTOR FOR BASIC ENERGY SCIENCES OFFICE OF ENERGY RESEARCH \$96,830 to \$120,594 per annum

The U.S. Department of Energy (DOE) is seeking applicants for the Senior Executive Service position of Associate Director (AD) for Basic Energy Sciences (BES). This person will lead the basic energy scientific and technical programs of the Department, and will be the principal official responsible for development. implementation and direction of DOE's BES multidisciplinary research programs. This program encompasses 11 R&D National Laboratories, universities, and private institutions involving over 1000 grants, contracts, and interagency agreements, with a budget in excess of \$600 million. This program includes the planning, construction, operation, and closure of major user facilities, such as neutron and synchrotron light sources. This person is responsible for the development, administration and management of strategies and research projects which will enable major advances in energy conservation, conversion and use, and related environmental protection by improving the understanding of known phenomena and discovering new phenomena and concepts in the physical sciences, earth sciences, and engineering sciences. The incumbent provides the main focus for DOE's facilitation of close collaboration between National Laboratory programs and universities and collaboration with industry to provide new materials processes, instruments, and techniques useful in energy technologies, and coordinating activities with DOE's other technical and applied programs. The AD for BES reports directly to the Director of Energy Research.

Exceptional difficulty in recruiting highly qualified candidates may be the basis for paying a recruitment or relocation bonus (up to 25% of base pay), requesting approval of a dual compensation waiver for civil and uniformed service retirees, or utilization of critical pay authority (annual salary may be set up to \$133,600 per annum, the rate payable for Level II of the executive pay schedule).

Applications must be postmarked no later than **February 17, 1995.** Direct inquiries to: Office of Executive and Technical Resources, HR-34, 4E-080/FORS, DOE, Washington, DC 20585. DOE is an equal opportunity employer. U.S. citizenship is required.

### MEDICAL ISSUES RESEARCH ANALYST

Major midwest law firm is seeking applicants for the position of Research Analyst. Duties include: medical literature and medical records review and analysis; preparation and communication to non-scientists of analyses of medical issues. Position may require some travel. This is a high intensity position which emphasizes practical application of scientific knowledge. The position requires a result-oriented and self-motivated individual.

This position requires an outstanding academic record, a graduate degree in biological, life or biomedical sciences. A working knowledge of pharmacology and/or epidemiology is preferred. Excellent communication skills, both verbal and written, are essential. No legal education or experience required.

Please send a letter of application, complete college transcripts, a personal résumé, and references to:

Employment Supervisor Shook, Hardy & Bacon P.C. One Kansas City Place 1200 Main Street Kansas City, MO 64105-2118

An Equal Opportunity Employer

ASSISTANT ENTOMOLOGIST/Assistant Extension Entomologist: Urban Entomologist, Department of Entomology, University of California, Riverside, California. Ph.D. required; 11 months; 60% research, 40% extension. Research and extension responsibilities on arthropod pests of structural, industrial, and other urban environments. Research and extension will focus on one or more major urban pests—ants, termites, cockroaches, fleas, and stored product insects. Applicants send curriculum vitae, transcripts, bibliography, reprints and manuscripts in press, names of five references and statement of research interests by March 15, 1995, to: G. P. Walker, Department of Entomology, University of California, Riverside, CA 92521. The University of California is an Equal Opportunity/Affirmative Action Employer.

USDA, Agricultural Research Service announces a BIOLOGICAL TECHNICIAN (Plants) position. This is a permanent position located at the Appalachian Fruit Research Station, Kearneysville, West Virginia. The incumbent will provide technical support for isolation of genes expressed in peaches. The position requires knowledge of biochemistry, plant biology and microbiology. Skill in routine nucleic acid techniques is preferred. Salary range is \$19,116 to \$23,678, commensurate with experience. Please contact Janie Carr, PD, at 301-344-4569 for a copy of the specific job announcement (reference 5N019). Closing date for applications is February 6, 1995. An Equal Opportunity Employer.

# SENIOR SCIENTIST/IMMUNOGENETICS HISTOCOMPATIBILITY

DataGenetics, a DNA laboratory, contracts with agencies which require tissue typing. The position involves direction of data production and interpretation, client liaison, and project design. Applicants should have a Ph.D. in immunogenetics and a minimum of 10 years of experience. The candidate must be familiar with all functions of a clinical histocompatibility laboratory. Send résumé to: DataGenetics Corporation, Human Resources, 1933 Davis Street, Suite 207, San Leandro, CA 94577 (Principals only). An Equal Opportunity Employer.

ACQUISITIONS EDITOR—Chemistry and/or related discipline. John Wiley & Sons, Inc., a prestigious international publisher, seeks an experienced Acquisitions Editor for our professional Chemistry program. You will be responsible for product acquisition, development and implementation of the strategic plan and sales/marketing management for the program's continuity and subscription-based products. Candidates should have three plus years of acquisitions experience in Chemistry or related discipline. Knowledge of subscription-based/continuity product and exposure to electronic product development desired. Must have strong strategic, financial management and communication skills. Frequent travel required. We offer a competitive salary and bonus program as well as comprehensive benefits package. Interested applicants should please send résumé and salary history to: B. Nabi, Human Resources Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158. Only those qualified will be contacted. Equal Opportunity Employer/Minority/Female/Disabled/Veterans.

## **POSITIONS OPEN**

### PH.D. MOLECULAR BIOLOGIST

Advanced protein research workstations with "biology intuitive" software, will soon be ready for further development in world class laboratories. These powerful tools promise to revolutionize the conduct of biology and gene research worldwide. We seek a project/product manager to assure these remarkable tools speak the language and logic of the molecular biologist. Competitive cash compensation enhanced by significant stock options. Reply to: Hockett Associates, Post Office Box 1765, Los Altos, CA 94023. FAX: 415-941-8817.

Physical Pharmaceutical RESEARCH SCIENTIST for pharmaceutical manufacturer in southwestern Ohio. Analyze on paper, chemical structures for likely decomposition mechanisms and expected formulation issues (chemical stability, aqueous solubility and bioavailability) Perform preformulation studies, utilizing HPLC; UV. NMR and IR spectroscopy; particle size analysis and Karl Fisher analysis; including physical and chemical characterization, of new drugs to determine solubility; solution and solid state stability; partition coefficients; ionization, and complexation constants and dissolution rates of new drugs and dosage forms. Utilize thermal analysis (DSC, TGA) to identify existence of morphologic changes. Develop new or modified HPLC analytical methods, isolate and/or identify degradation products and process impurities and perform mechanistic studies. Characterize drug substance/excipient interactions to develop stable, bio available solid dose forms. Design and prepare intravenous and oral solution doses for animal and human dosing studies. Ph.D. in Pharmaceutical Chemistry (or completion of all the requirements for the Ph.D.), plus M.S. in Analytical Chemistry or Analytical Chemistry and Instrumentation (employer will accept the equivalent to the M.S. in education and experience, which employer has determined would be equivalent to a B.S. in a Physical Science plus three years of experience as Analytical Chemist). One year in job described or one year preformulation development analytical chemistry experience which must have included having designed and developed new and modified analytical methods, using HPLC, and having routinely used: UV, NMR and IR spectroscopy; particle size analysis; thermal analysis (DSC, TGA); and Karl Fisher analysis. 40 hours per week, 8 am to 5 pm, Monday through Friday, \$61,000 per year. Must have proof of legal authority to work indefinitely in United States. Send résumé in duplicate (no calls) to: G. Maugans, Job No. 00803, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.

## **ANNOUNCEMENTS**

# SOCIETY FOR LITERATURE AND SCIENCE

Call for Papers: 1995 Annual Meeting of the Society for Literature and Science. Place: Los Angeles/Radisson Bel-Air Summit and Brentwood Holiday Inn. Dates: Thursday, November 2 through Sunday, November 5, 1995. Conference Liaison: N. Katherine Hayles, UCLA.

Send four copies of abstracts of 12-minute papers or proposals for sessions, roundtables, or panels (along with name, address, Email, and numbers for telephone and fax) to: Jay Labinger, Beckman Institute, 139-74, California Institute of Technology, Pasadena, CA 91125. Email: jal@portia.caltech.edu. Due date: February 15, 1995 (original deadline of February 1, 1995, has been changed).

# RESEARCH GRANTS

As part of its continuing efforts to encourage the utilization of alternatives to traditional uses of laboratory animals in basic research, testing and education, The Alternatives Research and Development Foundation is soliciting research proposals to develop such methods. Funding up to \$40,000 each is available to support individual projects at U.S. universities and research institutions. Special attention will be given to proposals which focus on the use of human tissues and/or the production of monoclonal antibodies through *in vitro* systems. Deadline for application is 30 April 1995, with recipients announced on 15 July 1995. For further information and application instructions contact (mail or FAX only): The ARDF, 801 Old York Road, No. 204, Jenkintown, PA 19046-1685. FAX: 215-887-2088.

# **ANNOUNCEMENTS**

### RESEARCH PROGRAM IN THE DEVELOPMENTAL PATHOBIOLOGY OF BRONCHOPULMONARY DYSPLASIA

The Division of Lung Diseases, National Heart, Lung, and Blood Institute (NHLBI) has funded to the Southwest Foundation for Biomedical Research in San Antonio, **Dr. Jacqueline J. Coalson**, Principal Investigator, a new nationwide collaborative program of research on the molecular etiology, mechanism of pathogenesis, and prevention of bronchopulmonary dysplasia (BPD). The grant will provide, to collaborating investigators, a mamnalian model of BPD for basic research studies designed to define the development of this disease in molecular terms. The Southwest Foundation and NHLBI invite inquiries, by February 1, 1995, from investigators from U.S. institutions, who could accelerate our understanding of BPD.

For further information, call or write: Dr. Jacqueline Coalson, Department of Pathology, 7703 Floyd Curl Drive, UTHSC-SA, San Antonio, TX 78284. Telephone: 210-567-4121; FAX: 210-567-6725.

## **COURSES AND TRAINING**

# GRADUATE TRAINING IN VIRAL ONCOLOGY AND IMMUNOLOGY

Stipends are available for students pursuing a Ph.D. in an integrated program in molecular oncology and immunology beginning September 1995. The principal interests of participating faculty are molecular mechanisms of tumorigenesis including oncogenes and tumor suppressors, repair of DNA damage, signal transduction and growth control, as well as molecular, cellular and tumor immunology.

Students will be supported chiefly by an NIH programmatic training grant, requiring U.S. citizenship, or resident status. We strongly encourage applications from minority students. Limited funding is also available outside of this source. Information and application forms are available from: Dr. R. B. Carroll, Graduate Student Advisor, Department of Pathology, New York University Medical School, 550 First Avenue, New York, NY 10016.

DOCTORAL PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY AND PATHOBIOLOGY. Interdisciplinary program in fundamental molecular and cellular biology and its application to disease. Competitive stipends of \$15,000 available. Contact: Director, MCBP Program, College of Graduate Studies, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425-2501.

MEDICAL UNIVERSITY OF SOUTH CAROLINA offers programs leading to Ph.D. and M.D./Ph.D. degrees in each of the basic Biomedical Sciences (Biochemistry, Microbiology/Immunology, Pathology, Pharmacology, Physiology), Biometry/Epidemiology, Pharmaceutical Sciences, and Molecular and Cellular Biology. Competitive stipends of \$15,000 available. Contact: College of Graduate Studies, MUSC, 171 Ashley Avenue, Charleston, SC 29425-2501.

# **INTERNATIONAL SYMPOSIUM**

Evaluation of Butadiene and Isoprene Health Risks. 27-29 June 1995—Inn At Semi-Ah-Moo, Blaine, Washington. A three-day symposium preceding ICT-VII on Butadiene and Isoprene Issues: Metabolism and Pharmacokinetics; Biological Effects; Epidemiology; and Assessment Perspectives and Methods. Jointly Organized by: AIHA; API; CEFIC; CIIT; CMA; ECETOC; EPA; HEI; IARC; IISRP; IPCS; NIEHS; and SOT. Inquiries: J. Ludwig, Symposium Coordinator, International Institute Of Synthetic Rubber Producers, 2077 South Gessner, Suite 133, Houston, TX 77063. Telephone: 713-783-7511, ext. 255; FAX: 713-783-7253.

### Public Health Service National Institutes of Health Baltimore, Maryland

## A Senior Executive Service Vacancy

### Scientific Director National Institute on Aging

THE POSITION: Scientific Director of the National Institute on Aging (NIA), one of the world's largest and most comprehensive institutions in aging research. NIA conducts, fosters, and supports biomedical, social, and behavioral research and training pertaining to aging processes and common problems of older people. The Scientific Director serves as the principal advisor to the Director of the NIA concerning all ongoing and projected intramural research programs of the NIA and is fully responsible in the development of broad decisions concerning program planning, budget and policy formulation and research allocation of the intramural program.

THE CHALLENGE: Leadership in the overall scientific management of an innovative research program in the field of aging with a budget of \$37 million and a staff of over 300. NIA is currently pursuing cutting edge research on the cellular and molecular biology of aging and of pathologic conditions common to aging, including Alzheimer's and cardiovascular disease, as well as a broad range of biological and behavioral research related to the aging process.

THE IDEAL CANDIDATE: Demonstrated scientific leadership and research experience in a basic and clinical research program of national and international standing in an area relevant to aging research. M.D. or Ph.D., or comparable experience and training in one of the biological, behavioral, and/or biomedical sciences.

SALARY RANGE: This is a Civil Service position in the Senior Executive Service (SES), with a salary ranging from an ES-1 to ES-6 level per annum (currently \$96,830 to \$120,594), phus a Physician's Comparability Allowance up to \$20,000 per year. A recruitment bonus of up to 25 percent of base pay may be available to a non-Federal candidate, subject to individual approval; a relocation bonus of up to 25% of base pay may be available to permanent federal employee who must relocate, subject to individual approval.

HOW TO APPLY: An application accompanied by a current curriculum vitae and bibliography should be submitted to:

National Institute on Aging Gerontology Research Center ATTN: Personnel Office, Room 1D09 4940 Eastern Avenue Baltimore, Maryland 21224-2735

Applications must be postmarked by March 1, 1995 and received by close of business March 6, 1995.

For further information contact Ms. Karen L. Maben in the NIA Personnel Office at (410) 558-8116.

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 disability, age, sexual orientation, or membership or non-membership in an employee organization. Please note that this has been designated as a Federal Equal Opportunity Recruitment Program position.

NIH is an Equal Opportunity Employer

National Institute of Environmental Health Sciences • National Institutes of Health Public Health Service • Department of Health and Human Services

# Director, Environmental Toxicology Program (ETP), Division of Intramural Research (DIR)

The National Institute of Environmental Health Sciences (NIEHS) invites nominations and applications for the position of Director, Environmental Toxicology Program (ETP), Division of Intramural Research (DIR). The incumbent of this position is responsible for a broad toxicology program designed to evaluate the biological effects of environmental agents. The ETP also serves as a major operating component of the DHHS' National Toxicology Program (NTP). The ETP is composed of approximately 75 employees and a budget of \$50 million. The ETP's studies conducted intramurally and through contract include: (1) toxicology and carcinogenesis studies to establish and characterize the toxicity of chemicals and other environmental agents; (2) research to update and improve approaches for characterizing toxicity of chemicals and other agents; (3) research on mechanisms related to chemical-induced toxicity or issues of broad importance in toxicology; and (4) development of innovative approaches for use in risk assessment. The incumbent's responsibilities also include interactions with other government agencies and the scientific community at large as well as the public. In addition, as the Associate Director for NTP, the incumbent works with the Director, NIEHS, and other DIR/NIEHS personnel to manage the remaining \$26 million of NIEHS' contribution to the National Toxicology Program.

This is a Civil Service position in the Senior Executive Service. The salary range is ES-1 to ES-5, currently \$95,771 to \$115,255 (includes a locality pay of 3.09%) per annum. The person selected may be eligible for Physician's Comparability pay up to \$20,000 per year. A recruitment bonus of up to 25% of base pay may be available to a non-Federal selectee for this position, subject to individual approval. A relocation bonus of up to 25% of base pay may be available to a permanent Federal employee who must relocate to accept this position, subject to individual approval. (Alternatively, applicants may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) The SES individual selected, if not presently in the Senior Executive Service, must serve a one year probationary period.

Applicants must meet the minimum educational requirements (or possess equivalent combination of experience and training) for Toxicologist, GS-415, as defined by the U.S. Office of Personnel Management Qualification Standards Handbook for General Schedule Positions available in Federal Personnel Offices and Federal Job Information Centers. Further information about the position may be obtained by contacting Ms. Norma Daye at 919-541-7513. An Application and/or current curriculum vitae and bibliography and Executive Qualification narrative should be submitted to:

Ms. Norma L. Daye (Code: HNV98), Personnel Management Specialist National Institute of Environmental Health Sciences P. O. Box 12233, Research Triangle Park, NC 27709

Applications must be postmarked by March 17, 1995.

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

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# Associate Vice President for Research

Associate Vice President for Research is a new position in the Office of the Vice President for Research, with broad responsibilities for research and creative activity throughout the University at Buffalo (UB).

THE OFFICE OF THE VICE PRESIDENT FOR RESEARCH is responsible for research policy and planning; administration of organized research units; administration of externally funded research, training, and public service grants and contracts; the Office of Technology Transfer Services; industrial relations; human subjects review boards and committees responsible for oversight of various compliance areas; the University's technology business incubator facility, and central instrumentation facilities. In addition, this office shares responsibility for economic development and federal relations.

THE ASSOCIATE VICE PRESIDENT will be a key participant in policy formulation and in setting future directions for research at UB. Working with faculty, deans, senior administrators, and the UB Foundation, the successful candidate will provide leadership in developing and organizing collaborative and consortial research initiatives, assist in identifying and securing funding for such initiatives, and help advance research and public service programs that enhance the region's and the state's economic development and quality of life. Other responsibilities include administration of organized research units, institutional grants programs, and administration of core research and research support facilities.

QUALIFIED CANDIDATES will have experience at a university or research organization as an independent investigator, a record of research accomplishment, demonstrated success in securing research funding, strong administrative and leadership abilities, experience with and knowledge of relevant government funding agencies, high ethical standards and a commitment to excellence.

THE UNIVERSITY AT BUFFALO, a member of the Association of American Universities, is a major public research university with more than 25,000 students, over 100 post-baccalaureate degree programs, 6,000 faculty and staff, and an annual volume of externally sponsored research and training exceeding \$120 million. Located in Western New York, Buffalo is a dynamic community with affordable housing, excellent schools, and a rich cultural climate.

The search is being assisted by Dr. Ira Krinsky of Korn/Ferry International (310) 843-4128.

APPLICATIONS AND NOMINATIONS will be assured full consideration if received prior to January 27, 1995, by: Chair, Search Committee for Associate Vice President for Sponsored Research, University at Buffalo, 516 Capen Hall, Box 601611, Buffalo, NY 14260-1611

THE UNIVERSITY AT BUFFALO is an Equal Opportunity, Affirmative Action Employer. Applications from members of minority groups and women are encouraged.

# UNIVERSITY AT BUFFALO

State University of New York

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# POSTDOCTORAL FELLOW Protein Analysis

Working in our Protein Analysis Laboratories, you will be part of a professional team exploring newly evolving analytical technologies and evaluating new analytical methods for protein pharmaceuticals. To qualify, you will need to be an independent self-starter with a PhD in Biochemistry or Analytical Chemistry. Experience in protein chemistry, analysis of protein and peptides, biochromatography and electrophoresis is

desirable. Excellent communication and interpersonal skills along with a commitment to teamwork are essential.

We offer an excellent compensation package including a competitive salary and comprehensive benefits. For prompt, confidential consideration, we invite you to forward a resume with salary requirements to: Human Resources-SS, Dept. TM44-09. Schering-Plough Research Institute, 2015 Galloping Hill Road, Kenilworth, NJ 07003-0539. We are an equal opportunity employer. We regret we are unable to respond to each resume. Only those selected for an interview will be contacted.



Using Science For Human Advantage

# Cell and Molecular Biology Postdoctoral Positions

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

JUSTIN FALLON: Molecular biology of synapse formation.

HARVEY FLORMAN: Signal transduction during fertilization.

F. ROB JACKSON: Molecular genetic analysis of circadian rhythms and other neural functions in <u>Drosophila</u>.

MICHELE JACOB: Regulation of neuronal synapse formation.

DANIEI. KILPATRICK: Cell-specific transcriptional regulation during differentiation of spermatogenic and somatic cells.

ELIZABETH LUNA: Structure and regulation of cytoskeleton-membrane attachment.

CLARE O'CONNOR: Regulation of protein stability during gametogenesis.

THORU PEDERSON: Molecular and cell biology of gene expression, with emphasis on RNA-protein interactions and RNA processing.

JOEL RICHTER: Gene expression during early <u>Xenopus</u> and mouse development.

ALONZO ROSS: Nerve growth factor receptors and differentiation of neural tumors.

GREENFIELD SLUDER: Timing and molecular control of mitotic events during early development.

RICHARD VALLEE: The role of microtubule motors in mitosis and organelle transport; the role of GTPases in receptormediated endocytosis.

YU-LI WANG: Assembly and dynamics of actin and myosin in living cells.

GEORGE WIIMAN: Molecular basis for flagellar movement; sensory transduction in <u>Chlamydomonas;</u> control of sperm maturation and capacitation.

DAVID WOLF: Structure, function, and dynamics of nerve growth factor receptor.

PAUL ZAMECNIK: Synthesis of modified oligonucleotides for chemotherapy.



Send curriculum vitae and names of references to the faculty member(s) of interest, c/o Human Resources, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545, USA. An Equal Opportunity/ Affirmative Action Employer M/F/II.

# MANAGER/DIRECTOR BIOENGINEERING PROCESS DEVELOPMENT

Energy BioSystems Corporation (EBC) is a well-financed biotechnology company located in The Woodlands, Texas, about 20 miles north of Houston. EBC is committed to developing new biotechnology-based process technologies for the fossil fuel industry. Most of the company's efforts over the past 3 years have been devoted to the characterization of the molecular biology and fundamental engineering aspects of a novel process to remove sulfur from fossil fuels using bacteria-based systems. This is a unique and revolutionary technology which the company believes will be the first of several "biorefining" technologies we will offer to the fossil fuel industry.

In 1994, EBC's R&D groups completed construction of a large scale (20-200 gal. per day) pilot plant of its Biocatalytic Desulfurization (BDS) process in order to test the process at a larger scale and develop the design basis for the first commercial unit. EBC is now looking for a biochemical engineer specializing in process development to take a leadership role in the transition of this technology from the bench into the field and to help the company complete the task of turning this technology into a viable commercial process.

### DUTIES

This position involves both technical and managerial leadership, combined with the "hands on" attitude you would expect of a 65 person biotechnology company. In particular, the duties will include:

Lead a Process Development effort (group of 8-10) to complete the development and scale up of a process for the microbially catalyzed desulfurization of petroleum refinery streams.

Responsible for:

Process Reactor development. Development and selection of final separations technology.

Continuous development of process in response to ongoing biochemical and genetic research.

Integration of the process development effort into a fast-paced R&D program.

Operation of a \$1.5 million experimental pilot facility.

Oversee experimental program.
Analyze and interpret data.
Communicate with senior management.
Develop design basis for first commercial unit.

# REQUIREMENTS

The ideal candidate will have the following credentials:

- 1. Ph.D. in Biochemical Engineering or related discipline combined with relevant experience.
- $2.\,\,10+$  years post doctoral experience, of which a large portion should be in industry.
- 3. Demonstrated experience with and publications relating to:

Microbial pathway engineering Separations technology Reactor design Pilot Plant operation Reaction modeling Cell/enzyme immobilization

- 4. Managerial experience in both experimental science and Pilot Plant operation.
- Team oriented approach, ability to meaningfully interact with fermentation, biochemical, and genetic research groups and senior management.
- 6. Experience in 2 phase biotransformations or petroleum systems a strong plus.
- 7. Excellent verbal and written skills. Plays well with others Organized and efficient worker.
- 8. Demonstrated leadership skills.

This position will report to the Vice President of Research and Development of the company and will have to interact with all other senior managers, EBC partners and our strategic corporate allies.

Send resume in confidence to:



Manager, Human Resources Energy BioSystems Corporation 4200 Research Forest Drive The Woodlands, TX 77381 EOE

No Phone Calls





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ETH Zürich, Institute of Plant Sciences/ Applied Entomology

# Research Associate (Oberassistent/in) in Applied Entomology

We are seeking a creative and cooperative scientist with strong expertise and post-doctoral experience in population dynamics of insect herbivores in agroecosystems.

Responsibilities include (1) research together with undergraduate and graduate students on population dynamics including qualitative as well as quantitative field and laboratory studies, with special emphasis on insect dispersal and herbivore/plant interactions, (2) participation in teaching and administration.

Send curriculum vitae, three publications and three references to: Prof. Dr. Silvia Dorn, Institute of Plant Sciences, Applied Entomology, ETH Zentrum, Clausiusstr. 25, CH-8092 Zürich.

# r c h A s s o c i

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# The George Washington University

The Department of Biological Sciences of the Columbian College and Graduate School of Arts and Sciences invites applications for the position of:

# RUTH WEINTRAUB RESEARCH PROFESSOR OF BIOLOGICAL SCIENCES

This tenure-track position will be filled at the Assistant Professor level by a scientist using phylogenetic systematic methods and terrestrial arthropods to investigate questions in evolutionary biology.

Candidates with postdoctoral experience and an expertise in coevolution, behavior, or historical ecology will be preferred. The successful candidate should be prepared to develop a funded research program involving graduate and undergraduate students. In addition to training students in research, the Ruth Weintraub Research Professor will offer one or two courses in their field per year. Substantial start-up funds are available. The starting date for the position will be Sept. 1, 1995.

Please send a letter of application describing research goals for the next five years and teaching interests, a curriculum vitae and three letters of reference to:

Diana Lipscomb, Chair of Search Committee
Department of Biological Sciences
307 Lisner Hall
The George Washington University
Washington, DC 20052

Review of applications will begin on Feb. 1, 1995 and will continue until the job is filled.

The George Washington University is an Equal Opportunity, Affirmative Action Employer, Applications from women and minorities are strongly encouraged.



# GLOBAL CAREER OPPORTUNITIES



# THE EDWARD

# JENNER INSTITUTE

FOR VACCINE RESEARCH

Applications are invited from suitably qualified scientists for the post of

# SCIENTIFIC HE

of the Edward Jenner Institute for Vaccine Research

The Edward Jenner Institute has been recently established by the Office of Science & Technology, MRC, BBSRC, Department of Health and Glaxo, as an independent research institute. The Institute is dedicated to research aimed at the understanding of the immune responses against infectious organisms or tumour cells, and in particular how beneficial protective responses may be induced by vaccination. The Institute will also carry out research to develop new models of infectious or malignant disease in which efficacy of potential vaccines may be predicted, and to devise improved formulations and adjuvants for the presentation of antigens to the immune system.

The Scientific Head will report to the Board of Management of the Institute, and will play a key role with the Board and its Scientific Advisory Committee in the determination of the Institute's research strategies and scientific programmes. The Head will be responsible for the implementation and management of the research programmes of the Institute and for its day to day operation. He/she will play an important role in establishing the Institute's facilities, to be built at the Institute for Animal Health, Compton, Berkshire, UK, and for recruitment of the core staff of up to 30 scientists and technologists.

It is anticipated that the Scientific Head will be a scientist of international standing in one or more of the fields of science of this Institute and will have significant experience of research management.

Further particulars about the Institute and this post and terms and conditions of this senior appointment may be obtained from: The Edward Jenner Institute for Vaccine Research Steering Committee, c/o Lansdowne House, Berkeley Square, London W1X 6BQ. Applications should reach the Committee by 31st January 1995.

# Call For Papers Massachusetts m h e r s t 10th Annual Conference on Hydrocarbon Contaminated Soils Analysis, Fate, Environmental & Public Health Effects, and Remediation October 23-26, 1995

# General Sessions

Papers and Posters are invited for presentation in the general sessions in the following areas: chemical analysis

- hydrocarbon identification
   site assessment/field sampling
- regulatory programs and policiesenvironmental fate and modeling
- soil chemistry
- · hazard, exposure, and risk assessment
- standard remedial technologies/corrective actions
   innovative remedial technologies
   case studies on any of the above

# Special Sessions

Presentations for special sessions related to the following areas are encouraged:

- contamination at military installations
   chlorinated hydrocarbons, pesticides and heavy metals
  •ecological risk assessments
- jet fuel contamination
  state regulatory programs
  innovative technologies
  cleanup standard setting

- •risk based cleanups Association of American Railroads sponsored session on diesel fuel contamination & railroad

# DEADLINE for submission is February 10, 1995

For More Information Contact The Conference Directors: Edward J. Calabrese, Ph.D. or Paul T. Kostecki, Ph.D. at (413) 545-2934



# **EUROPEAN COMMISSION**

The Commission is seeking highly qualified candidates (grade A2)

# COM/R/5546/94

# DIRECTOR OF THE INSTITUTE FOR SYSTEMS ENGINEERING AND INFORMATION TECHNOLOGY (ISPRA)

To organise, manage and coordinate the activities of the Institute at both a scientific and administrative level.

These activities consist in particular of: □ the activities relating to systemics and informatics in support to the JRC Institutes and to other Services of the Commission; in particular the activities defined at the first indent relating to environmental and safety problems in the framework of institutional research activities and institutional S & T support to be allocated on a competitive basis by Services of the Commission; ☐ the participation in Indirect Action Programmes relevant to the competence of the Institute; ☐ the performance of Third Party Work for outside private and public

Recognised scientific competence based also on recent research activities, achievements and publications; □ established capability to manage research units resulting from actual experience; 

comprehensive vision of a systemic approach to complex, multidisciplinary research themes, involvement in the formulation of informatics strategies; 

experience in the capture of research markets in the open marketplace.

Nationality: Candidates must be a national of one of the European Union's Member States.

Interested persons should send their applications with a detailed c.v. before 15/02/1995, to:

Joint Research Center, Unit "Human Resources", I-21020 Ispra (VA). The Commission's policy is to ensure equal opportunities for men and women.



# GLOBAL CAREER OPPORTUNITIES



# Research Centre Jülich, Germany

Clinical Research in Magnetic Resonance (MR): Functional Imaging/Spectroscopy and Magnetoencephalography (MEG)

The Institute of Medicine offers two positions for

# Postdoctoral Research Scientists

for studies on brain function and biochemistry. The Institute is currently expanding its PET and SPECT research programme on brain and heart functional imaging by establishing research programmes in MR Imaging/Spectroscopy and Magnetoencephalography. The MR research group will operate a state-of-the-art 1.5 T scanner with fast imaging capabilities. A state-of-the-art 2x37 channel MEG system has already been installed. Both groups will provide opportunities for clinical studies and for basic technology development. The integration of MR, PET, SPECT and MEG at the Institute of Medicine together with the diversity of other research activities at the Research Centre Jülich (KFA), ranging from biotechnology to materials research and nuclear research, provides a unique and stimulating environment for dedicated individuals.

Applicants for the MR research position should have an M.D. or Ph.D. and extensive experience with NMR techniques for the assessment of the central nervous system. A strong background in one or more of the following fields is advantageous: computer science, mathematics, neurology, radiology, pharmacology, physics or radio frequency engineering.

Applicants for the MEG research position should have a Ph.D. or M.D. and a strong biomedical background. MEG experience ia advantageous.

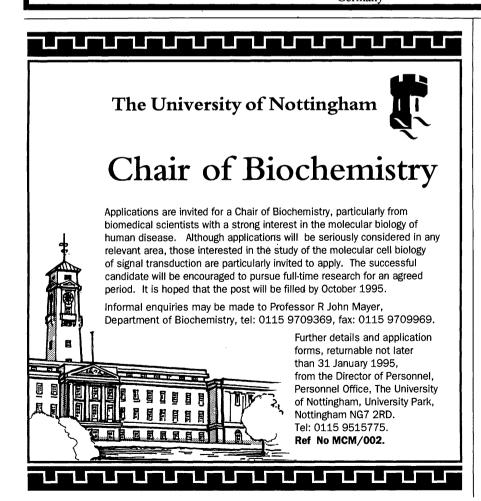
The KFA aims to increase the proportion of female staff and therefore particularly invites applications from women with appropriate qualifications.

Salary and social security benefits are based on the provisions of the Federal Employees Collective Salary Agreement (BAT).

Send curriculum vitae, experience profile and research interests, and names of three references to:

# FORSCHUNGSZENTRUM JÜLICH GmbH

Personal-und Verwaltungabteilung
- Personalbetreuung D-52425 Jülich
Germany



# PLANT BREEDER

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a nonprofit, autonomous, scientific research and training institute with regional centers and teams in Asia and Africa. We are seeking a Groundnut Breeder for our Genetic Enhancement Division in Malawi.

The appointee will be expected to provide research leadership in plant breeding. Research thrusts will include development of medium and long-duration enhanced germplasm adapted to rainfed production systems with resistance/tolerance to rosette virus, foliar diseases, particularly early leaf spot, and drought. This research will be carried out in close collaboration with ICRISAT scientists at other locations and the National Agricultural Research Systems in southern and eastern Africa region.

Applicants should have a Ph.D degree, or equivalent, in genetics and plant breeding, and evidence of active sustained research in crop improvement. Proficiency in oral and written English, knowledge of experimental design and analysis and use of microcomputers is essential. Experience with cropbreeding in a multi-disciplinary team would be an advantage. Knowledge and familiarity with the use of molecular marker techniques in plant breeding is

ICRISAT is an equal opportunity employer, and is especially interested in increasing the participation of women on its staff. ICRISAT is responsive to the needs of dual career couples. A Fact Sheet on employment possibilities for spouses is available on request. ICRISAT has a flexible approach to international appointments and welcomes enquiries from persons interested in working at ICRISAT while on secondment. An internationally competitive salary and benefits package will be provided. Applications should reach the Chair of the Search Committee, Dr. L. K. Mughogho, ICRISAT, Matopos Research Station, PO Box 776, Bulawayo, Zimbabwe [phone:+263 83 8311 to 8314, fax +263 83 8253 or 262 9 41652] by 18 March 1995. The application should include current Curriculum Vitae, the names and addresses (including fax/telex/email) of three referees, the date of availability, and a statement on the special qualifications of the candidate for this position.



# GLOBAL CAREER OPPORTUNITIES



# SCIENTIST/ POST DOCTORAL FELLOW



The R.W. Johnson Pharmaceutical Research Institute – Sydney, Australia

Common Johnson Research Pty. Limited

The R.W. Johnson Pharmaceutical Research Institute-Sydney is accepting applications for a Scientist or Postdoctoral Fellow position. Johnson & Johnson have established RWJ PRI-Sydney in research laboratories at Rushcutters Bay near the centre of Sydney and are planning relocating to new laboratories in Sydney in 1996. The Institute is closely associated with St Vincent's Hospital, The University of New South Wales, and a number of Australian and international collaborators.

The RWJ PRI-Sydney research program focuses on genetic and cellular strategies for the treatment of human disease and is composed of several interacting teams addressing therapeutic gene designs, model test systems, mammalian target cells and disease states. The successful candidate will be involved in studies on exogenous gene expression in cells of the Immune system.

This Scientist/Postdoctoral Fellow position requires a PhD or MD degree, a strong background in cell and/or molecular biology, particularly in immunology, a record of accomplishment, and a commitment to gene manipulation and cell therapy. Experience in the use and manipulation of retroviruses would also be an asset. The institute has an interdisciplinary basic and applied research program where scientific productivity including publication is the major priority. RWJ PRI-Sydney offers attractive remuneration packages, a stimulating research environment, and significant opportunity for professional development. Enquiries regarding the position should be made to Dr Geoff Symonds, telephone 61 2 360 9377. All applications will be held in confidence and should be sent by February 17 with names, addresses, and contact numbers of three referees to:

Dr Wayne Gerlach, Director R.W. Johnson Pharmaceutical Research Institute-Sydney GPO Box 3331, Sydney NSW 2001, Australia FAX: 61 2 560 7765

adcorp50894



# CENTRE FOR PLANT BIOCHEMISTRY AND BIOTECHNOLOGY

# **Lectureships in Plant Molecular Science**

Applications are invited for the above posts available immediately in the Department of Biochemistry and Molecular Biology and the Department of Pure and Applied Biology. Applicants should have achieved research excellence by scientific publication in any fundamental or strategic area of plant molecular sciences e.g; molecular biology of plant development and environmental responses, in vivo analysis of gene expression, molecular plant pathology and novel uses for plant biotechnology. The appointees will develop and lead a strong research group in their subjects.

Salary will be on the scale for Lecturers Grade A (£14,756 - £19,326) or Grade B (£20,133 - £25,735) according to qualifications and relevant experience.

Informal enquiries about the posts may be made to Professor Howard Atkinson, tel: 0532 332963.

Application forms and further particulars may be obtained from the Personnel Office (Academic Section), The University of Leeds, Leeds LS2 9JT, tel: 0532 335771, e-mail j.m.cox@registry.leeds.ac.uk quoting the reference number 85/13.

Closing date for applications: 9 February 1995.

The University of Leeds promotes an Equal Opportunities Policy.

# DEAN

# **Faculty of Science**

Applications are invited for the position of Dean of the Faculty of Science which becomes vacant on 1 June. 1995. It is hoped that the new Dean will take up duty on or soon after that date.

The faculty has a total enrolment of approximately 4,000 students and a staff of 450 (250 academic, 200 general) on four campuses. It comprises seven departments — Chemistry. Ecology and Evolutionary Biology, Earth Sciences. Genetics and Developmental Biology, Mathematics. Physics and Psychology. These have strong teaching and research links with other departments within the university and with outside organisations. Further, there is a School of Applied Science on the Gippsland Campus and a School of Arts and Science on the Peninsula campus (Frankston), the latter jointly with the Faculty of Arts.

The Dean is responsible to the Vice-Chancellor and provides educational and administrative leadership for the faculty. As a consequence of a recent review of the faculty, which has been accepted by the Vice-Chancellor, the new Dean has a mandate to effect whatever changes are necessary to revitalise the academic programs of the faculty. The Dean also participates in the overall management of the university as a member of the Committee of Deans. The successful candidate will be a scholar of standing who has a high level of managerial competence and capacity for academic leadership. The person will have qualities to be able to promote both the faculty within the university and the university in the community at large.

The successful applicant will be appointed as a professor within the university. The appointment will be initially for five years, with provision after review, for a further five year term, or, transfer to a chair within the faculty.

Salary: \$A115,000 per annum. Superannuation, travel and removal allowance, and temporary housing assistance are available. A fully maintained vehicle is provided.

Further information of an academic nature may be obtained from the Dean, Faculty of Science, Professor J. W. Warren, Facsimile +61 3 905 5692.

Information on application procedures and further particulars may be obtained from the Assistant Personnel Manager (Senior Appointments), Monash University, Clayton, Victoria, 3168, Australia. Facsimile +61 3 905 6016.

Applications should reach the Director of Personnel Services, Monash University, Clayton campus not later than Friday, 24 February 1995.



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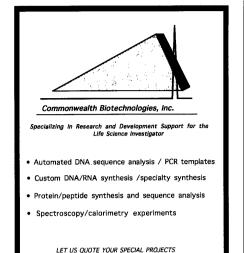
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Peptide research often involves screening large numbers of related peptides in the search for the ideal response. Unfortunately, the expense often limits the number of options that can be explored, and the time required can stretch into months.

Research Genetics is now producing nanomolar quantities of peptides already bound to a solid phase. This paper may be directly probed by antibodies, enzymes, etc. Once a suitable peptide is found, it can then be synthesized in larger quantities.

Up to 96 peptides of ten residues each will be spaced out on a sheet of modified cellulose. The cost is \$2,000 per sheet, and delivery time is a short two weeks.

AND...

# Monospecific Polyclonals

Research Genetics presents the monospecific polyclonal. This service is ideal for researchers who have the whole protein but need a highly selective response to it. The specificity of monoclonals is available at a fraction of the time and a fraction of the cost.

Here is how it works. The researcher provides Research Genetics with the whole protein which is then injected into two rabbits. The protein is then calculated as a collection of ninety-six peptides and synthesized onto our peptide paper. The sera from the two rabbits is used to probe the membrane to determine which peptides of the ninety-six give the strongest response. This antigenic peptide, *so designed by the rabbit's own immune response*, is resynthesized as a linear peptide, conjugated to KLH, and then reinjected into the same animals. Finally, the sera is affinity purified by the linear peptide.

The result is that the researcher receives antisera raised against the native protein, by purified against the peptide. The problems encountered using whole protein for antibody production may be eliminated by careful selection of the peptides bound to the membrane. In short, monoclonal specificity for \$3,500.

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# Research Genetics, Inc.

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