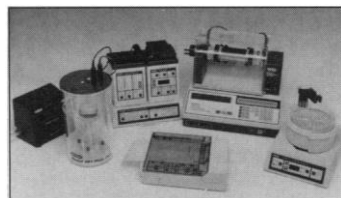


Preparative 2D Electrophoresis System

A two-step preparative electrophoresis system can purify any protein, from micrograms to grams of starting sample. In step one, the Rotofor system separates proteins by charge, providing a 500-fold purification for a par-



ticular molecule in less than 4 hours. In step two, the Model 491 Prep Cell isolates target proteins by size. With the Model 491 Prep Cell, SDS- or native-polyacrylamide gel electrophoresis can be used to isolate specific proteins from complex mixtures containing micrograms to 250 mg. The cell isolates molecules that differ in molecular weight by as little as 2%, or proteins that differ in charge by as little as 0.1 pH units. **Bio-Rad Laboratories. Circle 139.**

Technical Plotting Software

Spyglass Plot is a graphics and plotting tool with versions available for UNIX workstations and Macintosh computers. The program can generate line plots, double-Y plots, color scatter plots, and parametric plots. The plots can be easily edited with different line types, colors, symbols, numbers, curve fitting, and error bars. Users can quickly add labels, scales, legends, and titles. Results can be printed on high resolution PostScript printers or exported as EPS or HDF files. **Spyglass. Circle 140.**

API Mass Spectrometer

The API IIIPlus LC/MS/MS System is a rugged atmospheric pressure ionization mass spectrometer that provides superior performance for applications ranging

from biotechnology to pharmaceutical to environmental samples. The unit features a dynamic gas collision cell that dramatically increases sensitivity and mass resolution to resolve triply charged daughter ions at any mass. The system's simplified ion optics provides the direct transfer of ions without heating to the mass spectrometer, enabling the determination of the molecular weight of noncovalently bound complexes that other electrospray systems degrade. It is controlled by the Macintosh data system for powerful data acquisition, reduction, and reporting. **Perkin-Elmer. Circle 141.**

Probe for Biomolecular NMR

An innovative 10-mm probe enables nuclear magnetic resonance (NMR) spectroscopy to be used in the study of many enzymes, proteins, and other biological molecules that have been impossible to analyze with this technique. Traditionally, NMR analysis of large biological molecules has been difficult due to their limited solubility, which severely reduces sensitivity, and their tendency to aggregate in the concentrated solution required for a 5-mm sample analysis, which prevents NMR analysis of the compound in its natural state. These new probes eliminate these limitations by enabling extremely sensitive, high-performance NMR analysis of very dilute 10-mm samples. **Varian Analytical Instruments. Circle 142.**

Plasmid DNA Purification

The ScreenMax kit can process up to 24 samples in 30 min. Suitable for DNA sequencing, the kit provides from 2 to 7.5 µg of plas-



mid DNA per 200 µl of culture. The procedure involves just a 10-s boiling step, two microcentrifugation steps, two microfuge tubes, and three nontoxic reagents. **J. T. Baker. Circle 143.**

Data Collector for Macintosh

The Serial Box Interface is a low-cost way to collect data with a Macintosh. Simply plug the Serial Box Interface into the computer's modem port, connect your sensors, and use the Data Logger software to monitor temperature, pH, pressure, heart rate, light intensity, voltage, and more. The Serial Box Interface has two inputs that can be used to read analog voltages up to 50 times per second. An optional battery pack can be used for remote data collection with a PowerBook. **Vernier Software. Circle 144.**

Fluorescent Kits

Four kits for use with the FMBIO-100 Fluorescent Image Analyzer have been introduced. The Nucleic Acid Stain Kit provides a versatile set of gel staining reagents for routine and ultrasensitive detection and for high affinity binding of nucleic acids. Applications include nonradioactive band-shift mobility assays and DNA quantitation. The Western Blot Kit provides a sensitive method for detecting and identifying specific proteins or antigens in a heterologous sample. The Tangerine Oligonucleotide Labeling Kit provides a simple method for

fluorescently labeling and purifying oligonucleotides. Applications include DNA sequencing, blotting, and single-strand conformational polymorphism. The Tangerine FAST CAT Kit is for quantitating chloramphenicol acetyltransferase activity in cell extracts. **Hitachi Software Engineering America. Circle 145.**

DNA Gel Analysis Box

The DNX-2 is a unique system that can accommodate up to 225 samples for DNA sequencing, polymerase chain reaction, plasmid analysis, or any other molecular biology application. The DNX-2 contains a true built-in recirculating pump, which allows higher voltage capacity and straight band resolutions. **Bio-Synthesis. Circle 146.**

Literature

AMRESCO 94/95 is a catalog on hundreds of chemicals for biotechnology, including a complete line of electrophoresis reagents, nucleic acid purification kits, and pre-mixed buffers. **AMRESCO. Circle 147.**

Mercury Analysis: Instrumentation, Systems, and Software describes a complete line of equipment. **Thermo Separation Products. Circle 148.**

Thermolyne Laboratory Products 1994 Catalog features a line of mixers, shakers, incubators, hotplates, stirrers, furnaces, controllers, heating tapes, thermal cyclers, dry baths, and cryogenic equipment. **Barnstead/Thermolyne. Circle 149.**

Quantitative PCR: Methods & Applications provides an overview of quantitative polymerase chain reaction theory and applications, and reviews methods currently used to quantitate relative or absolute levels of specific mRNAs in tissue or cell samples. **Clontech Laboratories. 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.

Science

PERSONNEL PLACEMENT

LINE CLASSIFIED ADVERTISEMENTS

- **Deadlines:** Ads are due by Thursday, 10 a.m., 2 weeks prior to the issue date. *Science* is published each Friday, except the last Friday of the year. Call for holiday deadlines. Advertisements must be submitted in writing.
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- **Mail or FAX materials to:**
Science Classified Advertising
 1333 H Street, N.W., Room 814
 Washington, DC 20005
 Telephone: 202-326-6555
 FAX: 202-682-0816
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- **Ads from Outside the U.S.:** A discount of \$30 will be offered to advertisers making payment in U.S. dollars by checks drawn on U.S. banks. Contact Annemarie Vis at +44 223 302 067 (telephone) or +44 223 302 068 (FAX).
- **Credit Cards:** *Science* accepts MasterCard and VISA. Discount does not apply to credit cards.
- **Cancellations:** Deadline for cancellation is 10 a.m., Tuesday, 10 days prior to issue date.

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

Recruitment Advertising
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 Telephone: 202-326-6541

Janis Crowley, Recruitment
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CONDITIONS: Personnel advertising is accepted only with the understanding that the advertisers do not discriminate among applicants on the basis of race, sex, religion, age, color, handicap or sexual preference. The AAAS encourages employers to actively recruit and employ underrepresented minority groups. *Science* reserves the right, at its discretion, to decline to publish advertisements submitted to it.

POSITIONS OPEN

ASSISTANT PROFESSOR, DERMATOLOGY

The College of Physicians and Surgeons of Columbia University, Department of Dermatology, is currently seeking a full-time, non-tenured faculty member. The candidate must have an M.D. degree and a strong research background in photobiology and molecular biology. The successful applicant will be responsible for developing new investigative programs in the area of human porphyria and in the molecular mechanisms of these disorders and the cutaneous photosensitivity associated with them. The position also involves patient care and teaching. Qualified applicants must be board certified or board eligible in Dermatology.

Interested applicants are invited to mail curriculum vitae, with a cover letter, directly to: **David R. Bickers, M.D., Carl Truman Nelson Professor and Chairman, Department of Dermatology, Columbia Presbyterian Medical Center, 161 Fort Washington Avenue, Suite 1410, New York, NY 10032.**

Columbia University is an Equal Opportunity/Affirmative Action Employer.

PROFESSOR AND CHAIRPERSON/HEAD, DEPARTMENT OF ENTOMOLOGY.

Applications and nominations are invited to provide leadership for overall administration of teaching, research, extension and public service activities that comprise the mission of a Land Grant University. Individual must interact effectively with other administrative units, government agencies, agricultural industries, public interest groups and groups and alumni. An earned doctorate and national/international reputation in entomology or related field, with superior leadership qualities and administrative ability, and interest in promoting the diversity of activities for which the department is responsible are required. Applications received through April 29, 1994, or until a satisfactory pool of candidates is identified. Candidates initially should provide a statement of interest and curriculum vitae documenting relevant qualifications and including a complete list of publications. Names of references will be requested following initial, confidential screening. Send applications, nominations or inquiries to: **Dr. Stella M. Coakley, Chairperson/Head Department of Botany and Plant Pathology, Cordley Hall, Oregon State University, Corvallis, OR 97331-2902; Telephone: 503-737-5246; FAX: 503-737-3573; E-mail: coakleys@bcc.orst.edu.** *Oregon State University is an Affirmative Action/Equal Employment Opportunity Employer and is responsive to dual-career needs.*

The UIC Eye Center is seeking candidates for the position of **RESEARCH ASSISTANT PROFESSOR**, non-tenured, for research into the molecular mechanisms mediating membrane transport, gap-junctional communication, and transmitter-gated channels in the vertebrate retina. Candidates must have a Ph.D. in the biological sciences, minimum of two years of postdoctoral research in a related area, and a strong background in voltage-clamp technology and oocyte expression systems. Salary commensurate with training and experience. Starting date as early as April 15, 1994. Forward letters of applications and curriculum vitae to:

**Ms. Jovita Banks (#008)
 UIC Eye Center (m/c 648)
 1855 West Taylor
 Chicago, IL 60612**

To receive fullest consideration apply by April 11, 1994. *The UIC is an Affirmative Action/Equal Opportunity Employer.*

PHARMACOLOGY FACULTY POSITIONS

Applications are invited for two (2) faculty positions at the **ASSISTANT** and/or **ASSOCIATE PROFESSOR** levels in the areas of Molecular Pharmacology and of Toxicology in the Department of Pharmacology, School of Medicine, Universidad Central del Caribe. Applicants must have a Ph.D. and/or M.D. degree. In addition to carrying out an active research program in their areas of expertise, the candidates will be expected to participate in the teaching programs of the department, which include medical and graduate students. Interested applicants should send curriculum vitae and names of three references to: **J. Santos-Martinez, Ph.D., Department of Pharmacology, Universidad Central del Caribe, School of Medicine, Call Box 60-327, Bayamón, PR 00960-6032.** *Universidad Central del Caribe is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

Molecular biology (prefer plant emphasis), tenure-track **ASSISTANT PROFESSOR.** Teach 2 majors courses, general education course; co-teach introductory majors course. Develop research involving undergraduates. Link molecular to macro levels. Send letter, résumé, transcripts, sample of professional work, teaching evaluations (if available), 3 reference letters to: **Dean K. P. Goodrich, Linfield College, McMinnville, OR 97128-6894.** Screening begins April 6, 1994. *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR, Case Western Reserve University, Department of Medicine. Applications are invited for a research position in the Department of Medicine. The successful applicant may be eligible for a secondary appointment in the appropriate basic science department. Candidates must have the Ph.D. degree and 2 to 4 years of postdoctoral research experience. Relevant research experience must include: molecular biology, cell biology and cellular biochemistry. Specific research projects that are ongoing in the Division of Nephrology are: (1) transcriptional and posttranslational control of prostaglandin synthesis; (2) posttranslational regulation of phospholipase A₂; (3) transcriptional regulation of endothelin synthesis; (4) postreceptor signaling through mitogen-activated protein kinases. Interested applicants should send curriculum vitae, a summary of their research interests and experience, and the names of three referees to: **Michael J. Dunn, M.D., Professor of Medicine and Physiology and Biophysics, Director, Division of Nephrology, 11100 Euclid Avenue, Cleveland, OH 44106.** *The University is an Equal Opportunity/Affirmative Action Employer.*

PHYSIOLOGY

ASSISTANT OR ASSOCIATE PROFESSOR OF BIOLOGY

Juniata College announces continuing position in Physiology. Begin: fall 1994. Experience in undergraduate instruction, strong interest in teaching and advising (particularly advising students interested in pre-health professions), active commitment to undergraduate research, and understanding of role of natural sciences in a liberal arts curriculum and Ph.D. required. Assignments to include General Physiology (with Lab) and courses in candidate's area (cellular, neurobiological, or developmental emphasis preferred), and eventually first-year courses and/or departmental leadership. Send letter of application, current curriculum vitae, statement of teaching and research interests (list any major equipment needs), and three letters of reference to: **Dr. Karen Wiley Sandler, Vice President and Dean of Academic Affairs, Juniata College, Huntingdon, PA 16652.** Review of applications will continue until position is filled. *Juniata encourages applications from women and minority candidates. Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSORS—BIOLOGY (2). Two tenure-track positions to be filled September 1994. Ph.D. required. Field-oriented and teaching experience preferred. Responsibilities include: Teaching (in suitable combinations) Conservation Biology, Ecology, General Biology, Genetics, Invertebrate Zoology, Molecular Biology, Parasitology, Systematics, and Vertebrate Zoology; Supervision of 67-acre research area. Teaching load is 5 laboratory courses per year. Successful applicants are expected to develop an active research program involving undergraduate students. Carroll College is a private, four-year liberal arts college in suburban Milwaukee area. Applicants should submit curriculum vitae, transcripts, statement of teaching and research interests, and three letters of recommendation to: **Dr. Gary Stevens, Provost, Carroll College, 100 North East Avenue, Waukesha, WI 53186.** Review of the applications will begin April 1, 1994. *Women and members of minority groups are encouraged to apply. Affirmative Action/Equal Opportunity Employer.*

PROFESSOR AND CHAIR

Department of Cell Biology and Neuroscience

The University of Texas Southwestern Medical Center at Dallas announces a search for a chairperson to lead the Department of Cell Biology and Neuroscience. Candidates must have a substantial research career, active grant support, teaching ability and administrative skills. Ph.D. or M.D. required. Interested parties should send curriculum vitae to: **Daniel W. Foster, Chair, Internal Medicine, UT Southwestern, 5323 Harry Hines Boulevard, Dallas, TX 75235-9030.** *The University of Texas Southwestern Medical Center is an Equal Opportunity Employer.*

Department of Energy Human Genome Program Announcement

Program Notice 94-13: Human Genome Program—Ethical, Legal, and Social Implications

ACTION: Notice inviting grant applications

SUMMARY: The Office of Health and Environmental Research (OHER) of the Office of Energy Research (ER), U.S. Department of Energy (DOE), hereby announces its interest in receiving applications in support of the Ethical, Legal, and Social Implications (ELSI) subprogram of the Human Genome Program (HGP). The HGP is a coordinated, multidisciplinary, goal-oriented, research effort aimed at improving technologies that will lead to a detailed understanding of the human genome at the molecular level. This particular research notice encompasses research grants that address ethical, legal, and social issues that may arise from the use of information and knowledge resulting from the HGP. The DOE especially encourages the submission of applications to conduct multidisciplinary, empirical research on privacy issues from the creation, use, maintenance, and disclosure of genetic information. This may include (but is not limited to) issues of ownership and control of genetic information and the protection of the privacy of genetic information in various settings including the workplace. Applications should demonstrate knowledge of the relevant literature, and should include detailed plans for the gathering and analysis of factual information and the exploration of issues associated with the ethical, legal, and social implications of the knowledge gained from the HGP. All applications should include, where appropriate, detailed discussion of human subjects protection issues; e.g., storage of, manipulation of, and access to data. Where survey techniques are proposed, provisions to ensure the inclusion of women, minorities, and potentially disabled individuals must be described, unless specific exclusions are scientifically necessary and justified in detail. All proposed research applications should address the issue of efficient dissemination of results to the widest appropriate audience.

The DOE is also soliciting applications for the preparation and dissemination of educational materials in any appropriate medium that will enhance public understanding of both the scientific aspects and the ethical, legal, and social aspects of the HGP. In addition, the DOE is encouraging applications for the support of conferences focusing on specific issues or areas of concern related to the ethical, legal, and social implications of the HGP. Educational and conference applications should also demonstrate awareness of the relevant literature, and include detailed plans for the accomplishment of project goals, including, where appropriate, video productions. In the case of educational (pg 8185) activities, the DOE strongly recommends inclusion of assessments of effectiveness of the proposed activities. In the case of all conferences, a fairly detailed and complete roster of committed speakers is necessary. At the completion of the conference, a summary or report is required. Educational and conference applications must also demonstrate awareness of the need to reach the widest appropriate audience.

PREAPPLICATIONS: Potential applicants are strongly encouraged to submit a brief preapplication that consists of two to three pages of narrative describing the research project objectives and methods of accomplishment. These will be reviewed relative to the scope and research needs of the DOE's Human Genome Program. Preapplications referencing Program Notice 94-13 should be received by April 15, 1994, and sent to Dr. Daniel W. Drell, Office of Health and Environmental Research, ER-72 (GTN), Washington, DC 20585. For express deliveries, address to Daniel Drell (telephone 301/903-6488), 19901 Germantown Road, Germantown, MD 20874. Address submissions by electronic mail to genome@er.doe.gov (in ASCII text please). Telephone and FAX numbers are required parts of the preapplication, and electronic mail addresses are desirable. A response to the preapplications discussing the potential program relevance of a formal application generally will be communicated within 30 days of receipt.

SUPPLEMENTAL INFORMATION: It is anticipated that approximately \$1,000,000 will be available for grant awards in this area during FY 1995, contingent upon availability of appropriated funds. Multiple year funding of grant awards is expected, and is also contingent upon availability of funds. Previous awards have ranged from \$60,000 per year up to \$500,000 per year with terms from one to three years. Similar award sizes are anticipated for new grants. Information about development and submission of applications, eligibility, limitations, evaluation, selection process, and other policies and procedures may be found in the Application Guide for the Office of Energy Research Financial Assistance Program and 10 CFR part 605. The Application Guide is available from the U.S. Department of Energy, Office of Health and Environmental Research, Health Effects and Life Sciences Research Division, ER-72 (GTN), Washington, DC 20585. Telephone requests may be made by calling (301) 903-6488.

The dissemination of materials and research data in a timely manner is essential for progress towards the goals of the DOE Human Genome Program. The OHER requires the timely sharing of resources and data. Applicants should, in their applications, discuss their plans for disseminating research results and materials that may include, where appropriate, publication in the open literature, wide-scale mailings, etc. Once OHER and the applicant have agreed upon a distribution plan, it will become part of the award conditions. Funds to defray the costs of disseminating results and materials are allowable; however, such requests must be sufficiently detailed and adequately justified. Applicants should also provide timeliness projecting progress toward achieving proposed goals.

DATES: Formal applications submitted in response to this notice must be received by 4:30 p.m., E.D.T., July 14, 1994, to be accepted for merit review in September 1994, and to permit timely consideration for award in Fiscal Year 1995.

ADDRESSES: Formal applications referencing Program Notice 94-13 should be forwarded to: U.S. Department of Energy, Office of Energy Research, Acquisition and Assistance Management Division, ER-64 (GTN), Washington, DC 20585, ATTN: Program Notice 94-13. The following address must be used when submitting applications by U.S. Postal Service Express Mail or any commercial mail delivery service, or when handcarried by the applicant: U.S. Department of Energy, Office of Energy Research, Acquisition and Assistance Management Division, ER-64, 19901 Germantown Road, Germantown, MD 20874.

FOR FURTHER INFORMATION CONTACT: Dr. Daniel W. Drell, Office of Health and Environmental Research, ER-72 (GTN), Office of Energy Research, U.S. Department of Energy, Washington, DC 20585, (301) 903-6488.

From: Federal Register, Friday, February 18, 1994, Vol. 59, No. 034, 59 FR 8184. "Energy Research Financial Assistance Program Notice 94-13: Human Genome Program-Ethical, Legal, and Social Implications"



Associate Dean for Research The Office of Research Development

The Bowman Gray School of Medicine of Wake Forest University seeks an associate dean for research for the Office of Research Development. The candidate must have an M.D. or Ph.D. (or equivalent) and evidence of substantial accomplishments in biomedical research. Experience should include at least seven years in research development or administration, program planning and evaluation of research activities, and demonstrated leadership abilities in the biomedical research community. The associate dean is the principal advocate for research within the administration and chief institutional spokesperson for research issues. Responsibilities include development of strategies to capitalize on research opportunities in public and private sectors; providing liaison activities to federal agencies and new/existing sources of research funding; and direction, performance and quality of all programmatic activities of The Office of Research Development which include the execution of research grants and contracts and assurance that research activities comply with institutional and governmental regulations.

Please send curriculum vitae to attention of:

Dr. Curt D. Furberg, Chairman, search committee
(910-716-2498)
Department of Public Health Sciences
The Bowman Gray School of Medicine
Medical Center Boulevard
Winston-Salem, NC 27157

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The Bowman Gray School of Medicine is an equal
opportunity/affirmative action employer



Temple University School of Medicine

Department of Microbiology and Immunology

POSTDOCTORAL, PROJECT INVESTIGATORS, OR RESEARCH ASSISTANT PROFESSOR positions are available to work on: (1) The molecular cloning and identification of tumor-specific antigens in human malignancies; (2) development and characterization of human T-cell clones; (3) molecular characterization of T-cell antigen receptors involved in anti-tumor immunity or autoimmune diseases. Experience in molecular cloning and expression systems, development and characterization of human T-cell clones is needed. Positions supported by NIH research grants. Interested candidates should send a curriculum vitae, bibliography, and names and addresses of three references to: **Chris D. Platsoucas, Ph.D., Professor and Chairman, Department of Microbiology and Immunology, Temple University School of Medicine, 3400 N. Broad Street, Philadelphia, PA 19140.**

Temple University is committed to Affirmative Action/Equal Employment Opportunity and strongly encourages applications from women and minorities.

Animal Health Product Development

Join the Growth. Join the Success.

Pfizer, a Fortune 100 company, one of the largest pharmaceutical companies in the world and a multi-billion dollar industry leader, can offer you a world of challenge, opportunity and achievement where you can make a significant contribution to the research and development of exciting new products to be introduced in the coming decade...and the new century.

Pfizer's Central Research Laboratories in Groton, Connecticut are the company's primary U.S. research facilities and represent one of only a handful of R&D organizations with a budget over \$1 billion to support continued advances in science. Pfizer has one of the world's largest Animal Health businesses and is committed to innovative research and to the development of new products for both livestock and companion animals. To accomplish that goal we are actively recruiting the following positions in our Animal Health Product Development Group.

Senior Clinical Research Investigator

The successful candidate will contribute to the design of testing plans and protocols for laboratory and field trial programs and will be responsible for the identification of collaborators and the management of studies conducted at field sites, contract laboratories and university departments throughout North America. An important role will be ensuring such studies are conducted to high quality standards and are in compliance with corporate procedures and regulatory requirements. Travel will be involved. Involvement continues with the analysis, interpretation and reporting of study data and the progression of candidates through to regulatory approval.

The position requires a DVM and/or PhD with five years experience in a clinically oriented veterinary or scientific discipline relevant to parasitic or infectious diseases of animals. Previous experience in the clinical aspects of drug development within the Animal Health pharmaceutical industry is desirable.

Clinical Research Assistant

In this role you will be responsible for preparing experimental protocols, liaising with collaborators and acting as the Pfizer monitor for clinical studies conducted at contract; interacting with the biometrics group to ensure timely analysis of data and preparing experimental reports to assure all data and experiment files meet departmental quality standards.

Requirements include a BS/BA or MS/MA with experience in a relevant discipline and industrial research experience. Knowledge of the animal health industry

would be an advantage. Previous experience as a Monitor for clinical efficacy and safety studies in an environment of good compliance is desirable.

Senior Clinical Systems Analyst

The successful candidate will be responsible for the development and programming of data management systems (using SAS) for the entry, storage and analysis of clinical study data; liaising with project team members and biometricians; assisting with the production of data listings and statistical reports in formats suitable for submission in regulatory documents; providing programming assistance to biometricians; and providing maintenance and user support for existing data systems.

This position requires a BS/BA or MS/MA in a relevant discipline with extensive SAS (version 6) programming experience. Previous experience in handling clinical data and statistical knowledge is desirable.

Assistant Clinical Systems Analyst

You will be responsible for assisting with the programming and maintenance of SAS data management systems for storage and analysis of clinical data; providing programming support for the generation of data entry screens; assisting with the production of data listings and statistical reports in formats suitable for submission in regulatory documents; and providing general technical support (VAX, PC and data systems).

You should have a BS/BA or MS/MA in a relevant discipline with SAS (version 6) programming experience. Previous experience in handling clinical data is desirable.

We offer competitive salaries and a full range of benefits including medical and dental insurance, paid holidays and vacations, educational assistance, savings and investment plan, pension plan, relocation assistance and more. Our R&D facility, located in a southeastern Connecticut shore community, gives access to the well known academic and cultural centers of the Northeast, and offers the attractions of a New England lifestyle.

To learn how you can be part of the future of Pfizer, send your resume to: **Charles P. Norris, Assistant Manager, Employee Resources, Pfizer Inc, Central Research Division, Eastern Point Road, Groton, CT 06340.** We are an equal opportunity employer.



Central Research
Bringing science to life.

POSITIONS OPEN

NEUROBIOLOGIST

The Department of Biology of Utah State University (USU) invites applications for a tenure-track faculty position at the rank of **ASSISTANT PROFESSOR**. The appointed person is expected to direct an externally funded research program in **NEUROBIOLOGY** combining physiological approaches with molecular, cellular, or organismal methods. The specific research area is open although applicants with interests that complement those of the current faculty will be favored. An ability to integrate into a large department with diverse research and teaching interests is important. Teaching responsibilities include an undergraduate course in comparative animal physiology and upper division/graduate course work in neurobiology. Excellent laboratory facilities are available. A Ph.D. degree in an area related to the neurosciences and a *legal right to work in the United States* are required. Postdoctoral research experience is highly desirable. Applicants must send curriculum vitae, a statement of research plans, and names and addresses of three references to: **Dr. Jon Y. Takemoto, Chair, Neurobiologist Search Committee, Department of Biology, Utah State University, Logan, UT 84322-5305**. Screening of applicants will begin July 1, 1994, and will continue until a suitable person is selected. *USU is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF GENEVA DEPARTMENT OF MOLECULAR BIOLOGY TWO PROFESSORS OF MOLECULAR BIOLOGY

Full-time appointment at the level of full professor or associate professor, starting date: 1 January 1995.

The successful candidates are expected to teach at graduate and undergraduate levels and to lead a strong research program in molecular genetics. A strong background in genetics is desirable. Research on ribozymes, DNA replication, recombination and translation could also be considered. Teaching in French is required but a period of adjustment can be granted.

Applications should be sent by May 31, 1994, to: **Secrétariat de la Faculté des Sciences, Université de Genève, 30 quai Ernest-Ansermet, CH-1211 Genève 4, Switzerland**, where inquiries can be made.

Qualified women are encouraged to apply.

DIRECTOR, SHOALS MARINE LABORATORY

The Division of Biological Sciences at Cornell University invites applications for the Bartels Director of the Shoals Marine Laboratory (SML). SML, a shared venture with the University of New Hampshire, is primarily a teaching program located on Appledore Island in the Gulf of Maine. The appointment will be made at any level, including full Professor with tenure, in an appropriate academic unit on Cornell's main campus. The Director should be a respected scientist with broad interests in the marine sciences and a strong commitment to undergraduate education. A candidate is sought with a notable record of academic achievement and administrative experience, and a demonstrated potential to provide effective leadership and carry on an active research program. The Director will be responsible for administering academic programs, will serve as liaison with the University of New Hampshire, and will be involved with fundraising. Qualified candidates should submit curriculum vitae and a statement of research, teaching, and administrative interests. In addition, three letters of reference should be sent directly to: **Dr. Peter J. Bruns, Director, Division of Biological Sciences, 169 Biotechnology Building, Cornell University, Ithaca, NY 14853-2703**. E-mail: pjs5@cornell.edu; FAX: (607) 255-2428. Screening of completed applications will begin April 15, 1994. Starting date is negotiable. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

BOTANIST/MICROBIOLOGIST: Siena Heights College, to begin August 1994. Candidates should be prepared to teach Botany, Cell Biology, Genetics, Microbiology and general education courses in biology. Supervision of senior research is expected. Ph.D. preferred, liberal arts experience as faculty or student is desirable. Application including curriculum vitae, statement of teaching philosophy, and three letters of recommendation by April 22, 1994, to: **Dr. Carl Kaster, Siena Heights College, 1247 East Siena Heights Drive, Adrian, MI 49221**. Women/minorities are encouraged to apply.

POSITIONS OPEN

EDITOR-IN-CHIEF, WORLD RESOURCES REPORT. The World Resources Institute (WRI), an independent research and policy institute, seeks applicants for Editor-in-Chief for its **World Resources Report**. Candidates should have a minimum of 10 years of relevant experience in research, publishing, or journalism, familiarity with global environment, development and resource issues, and demonstrated ability to write and communicate effectively. Send curriculum vitae to: **Resource and Environmental Information Program, World Resources Institute, 1709 New York Avenue, NW, Washington, DC 20006**. *Equal Opportunity Employer. Women and minorities encouraged to apply.*

PHYSIOLOGY CHAIR— UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

This notice is an announcement to potential candidates for the Chair in Physiology at the University of Arkansas for Medical Sciences, Little Rock, Arkansas. Position is open to candidates holding a Ph.D. or M.D. degree who would also qualify for a tenured appointment as Professor of Physiology. Any individual interested in being considered for this position should send his or her curriculum vitae and the names and addresses of at least three references to: **Dr. Roger Lester, Director, Division of Gastroenterology, Slot #567, 4301 West Markham, Little Rock, AR 72205**. Job Order #744057. *The University of Arkansas for Medical Sciences is an Equal Opportunity/Affirmative Action Employer.*

DIRECTOR OF RESEARCH, Sinai Hospital, Detroit, Michigan. Sinai is a 603-bed teaching hospital with ten Graduate Medical Education programs, over 50 full-time faculty and an annual research budget of over \$2.0 million. Facilities include a 25,000 square-foot research and animal care facility. M.D. or Ph.D. in a medical basic science discipline, research administration or grants management experience required. Experience in clinical studies, epidemiology, immunology or genetics preferred. Send letter of inquiry and curriculum vitae to: **Robert E. Reed, M.D., Executive Vice President for Medical Affairs, Sinai Hospital, 6767 West Outer Drive, Detroit, MI 48235**. *An Equal Opportunity Employer.*

RESEARCH DIRECTOR—The Animal and Plant Health Inspection Service (APHIS) seeks a Director for the U.S. Department of Agriculture's Denver Wildlife Research Center. The Center applies scientific expertise to the development of practical methods to resolve wildlife damage problems and to maintain the quality of environments shared with wildlife. The Center will relocate to new state-of-the-art facilities being constructed at Colorado State in Fort Collins. Ph.D.-level position. Salary range: \$59,198 to \$90,520. For copy of vacancy announcement AG-AD-108, call APHIS at 612-370-2200. Applications must be postmarked by April 29, 1994. *An Equal Opportunity Employer.*

MOLECULAR NEUROBIOLOGIST—The Department of Psychiatry of Indiana University School of Medicine has **FACULTY POSITION** open in Molecular Neurobiology at the Institute of Psychiatric Research. Experience in the application of molecular genetic techniques to neurobiologic problems is desirable. The successful candidate would be eligible for a tenure-track appointment as an Assistant or Associate Professor of Neurobiology and a possible joint appointment in an appropriate basic science department. Send curriculum vitae, research plan and names of references to: **John I. Nurnberger, Jr., M.D., Ph.D., Professor of Psychiatry and Medical Neurobiology, Director, Institute of Psychiatric Research, 791 Union Drive, Indianapolis, IN 46202-4887**; Telephone: (317) 274-8382. *Indiana University is an Equal Employment Opportunity/Affirmative Action, M/F.*

IMMUNOLOGIST—A 9- or 12-month tenure-track research/teaching position. Develop research program in immunology/pathogenic microbiology/marine biology. Teach immunology/microbiology for graduate/undergraduate. Submit curriculum vitae, statement of research interests, names of 5 references to: **J. C. Leong, Chair, Immunology Search Committee, Department of Microbiology, Oregon State University, Corvallis, OR 97331-3804**. Closing date: May 15, 1994. Position available: September 16, 1994. *OSU is an Affirmative Action/Equal Employment Opportunity Employer and is responsive to dual-career needs.*

POSITIONS OPEN

POSITION IN BIOLOGICAL SCIENCES Wagner College, Staten Island, New York

TENURE-TRACK POSITION: effective fall 1994, **CHAIR, BIOLOGICAL SCIENCES:** effective fall 1995. Rank and salary determined by qualifications and experience.

Qualifications: Ph.D. in Biology. Responsibilities include shaping and managing active department of 8 faculty with growing enrollments; teaching undergraduate courses in anatomy, physiology, nutrition, neuroanatomy, endocrinology, and general biology. Wagner College is a liberal arts institution of 1400 students with an emphasis on undergraduate teaching located on an attractive hilltop campus overlooking New York harbor. Send cover letter, curriculum vitae, three letters of recommendation, official transcript to: **Dr. Kathleen A. Bobbitt, Chair, Department of Biological Sciences, Wagner College, Staten Island, NY 10301**. *Equal Opportunity/Affirmative Action Employer.*

CELL BIOLOGY/PHYSIOLOGY ONE-YEAR SABBATICAL REPLACEMENT

Applicants expected to teach Cell Biology and assume responsibility for three sections of laboratory in an introductory Principles of Biology course for Fall Semester and teach Comparative Physiology with all labs Spring Semester, (15 contact hours per week each semester) and a course of choice for J-Term. Ph.D. preferred in Cell Biology or Physiology. Demonstrated teaching ability will be considered a valuable asset. Send application; statement of teaching philosophy; curriculum vitae; transcripts and three letters of recommendation by April 4, 1994, to: **Robert A. Bellig, Chair, Biology Department, Gustavus Adolphus College, 800 West College Avenue, St. Peter, MN 56082**. *Gustavus Adolphus College is an Equal Opportunity Employer and encourages applications from women and minority groups.*

FACULTY POSITION IN NEUROSCIENCE

A **TENURE-TRACK** faculty position is available in the Department of Neuroscience at the University of Virginia Health Sciences Center.

We are seeking to recruit an individual with expertise in Cellular and/or Molecular Neuroscience.

We anticipate making this appointment at the **ASSISTANT PROFESSOR** level although applications from candidates at all levels will be considered.

Please send curriculum vitae, sample reprints, a description of research plans, and the names and telephone numbers of three references to:

Oswald Steward, Ph.D.
Professor and Chair

Department of Neuroscience
University of Virginia Health Sciences Center
Charlottesville, VA 22908

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

The Bone Marrow Transplantation Program of the Johns Hopkins Oncology Center invites applications for an **INSTRUCTOR** position. Candidates should hold an M.D. degree and board certification in medical oncology. The successful applicant is expected to establish an integrated program of laboratory and clinical research in chronic myeloid leukemia, especially as it relates to transplantation. Candidates should present evidence of basic and clinical research accomplishments in both chronic myeloid leukemia and transplantation. Preference will be given to individuals who have demonstrated an ability to obtain independent research grants for these investigations. Interested candidates should submit curriculum vitae and three references to: **Dr. Richard J. Jones, Johns Hopkins Oncology Center, Room 2-127, 600 North Wolfe Street, Baltimore, MD 21287, USA**. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to study regulation of gene expression in mammalian skeletal muscle with emphasis on the neuromuscular synapse. Opportunity to interact with several investigators within the neuromuscular research group. Ph.D. in molecular biology or related field required. Send curriculum vitae and names of two references to: **Dr. Bernard J. Jasmin, Department of Physiology, Faculty of Medicine, University of Ottawa, 451 Smyth Road, Ottawa, Ontario, Canada K1H 8M5**; FAX: (613) 787-6718.



GRANTS FOR INTERNATIONAL JOINT RESEARCH IN THE AREAS OF MATERIALS AND GLOBAL ENVIRONMENT

The New Energy and Industrial Technology Development Organization (NEDO), a Japanese governmental implementing agency supervised by the Ministry of International Trade and Industry (MITI) of Japan, has been carrying out an International Joint Research Program since 1988. This program aims to contribute to the enhancement of the international level of industrial technology as well as to the advancement of international exchange by supporting international joint research teams which conduct superior research. In addition to supporting international joint research teams which conduct original and innovative basic research in the materials area, international joint research teams which conduct research in the global environment area will be provided with grants in FY 1994. The program in the global environment area will be conducted jointly with the Research Institute of Innovative Technology for the Earth (RITE).

Research grants will be provided to "International Joint Research Teams" which fulfill the following main requirements:

1. Each team, in principle, must be composed of four or more researchers;
2. Each team must consist of researchers of two or more different nationalities;
3. The research organizations where the team members' major activities take place must be located in two or more countries.
4. Each team must appoint a research coordinator and an accounting coordinator. The accounting coordinator must be responsible for accounting matters and function as the liaison between the team and NEDO. The accounting coordinator's organization and research site must be located in Japan, and he/she must be able to communicate with NEDO in Japanese about all accounting matters. The research coordinator can also hold the post of accounting coordinator.

FY 1994's program is shown below:

Research Area	Field of Research	Amount of Each Grant	Number of Themes to be Adopted	Recipients of Applications
Materials	1) Basic research concerning the investigation and elucidation of materials 2. Basic research concerning the practical use of materials	about 30,000,000 yen in FY 1994	6 themes	NEDO (Note a.)
Global Environment	Practical research concerning the production, generation and use of oil-alternative energy which contributes to the conservation and improvement of the global environment	about 30,000,000 yen in FY 1994	1 theme	RITE (Note b.)

*International joint research teams which conduct research in the energy area and the global environment area (basic research) will not be provided with grants in FY 1994.

(Recipients of applications)

Note a. Materials area

International Joint Research Division,
Industrial Technology Department
New Energy and Industrial Technology Development Organization (NEDO)
Address: PO Box 1151, 21F, Sunshine 80 Bldg.
3-1-1 Higashi-Ikebukuro, Toshima-ku,
Tokyo, 170 Japan
Phone No.: 81-3-3987-9357
Telefax No.: 81-3-3981-1536

Note b. Global environment area

Research Proposals Reception Section,
Research Planning Department
Research Institute of Innovative Technology for the Earth (RITE)
Address: 9-2 Kizugawadai Kizu-cho Soraku-gun,
Kyoto, 619-02 Japan
Phone No.: 81-7747-5-2302
Telefax No.: 81-7747-5-2314

Please be informed that the amount of each grant and the number of themes to be adopted may be changed, and that this grant program is subject to government budget approval. A research team may submit an application a maximum of two times for a grant on the same subject.

The application period is from March 10, 1994 to June 10, 1994. No applications will be accepted later than June 10th.

ATTENTION: If there are some discrepancies in a submitted application, for example, it does not follow the Application Guidebook or the research contents are different from the proposed research area, it will be considered invalid.

STA FELLOWSHIP PROGRAM

Postdoctoral Fellowships in Japanese National Laboratories

Introduction

The Science and Technology Agency (STA), an administrative organ of the Government of Japan, established the STA Fellowship Program in 1988 in order to offer opportunities for promising young foreign researchers in the fields of science and technology to conduct research at Japan's national laboratories and public research corporations (excluding universities and university-affiliated institutes).

The Program is also a response to calls from the international community of science and technology for greater international cooperation through the exchange of promising researchers.

Since Oct. 1, 1989, the Program has been managed by the Research Development Corporation of Japan (JRDC), a statutory organization under the supervision of STA, in cooperation with the Japan International Science and Technology Exchange Center (JISTEC). JRDC also has the strong support and cooperation of the Responsible Organizations listed in Table 1.

Fellowship Qualifications

The fellowships are open to young PhD holders of under 35 in principle, from universities, research councils, government research laboratories and industry. Any science or engineering discipline will be considered except military R & D.

Applicants should be of sufficient good health to pursue research activities in Japan.

Have sufficient language ability to pursue research activities in Japan, Japanese language ability is preferable, but English is sufficient in most cases. With the agreement of the host research institute, other languages may suffice.

Tenure and Field of Research

The tenure will be from 6 months to 2 years, to be decided upon through negotiation between the candidate and the host institute. The field of research will also be decided upon through negotiation between the candidate and the host institute, the results of research activities produced during the tenure will be subject to the regulations of the host institute.

Research field include: Mathematics; Physics; Geology; Electricity; Electronics; Information Engineering; Mechanics; Engineering Works; Architecture; Erosion Control; Landscaping; Chemistry; Metals; Resources Engineering; Medical Science; Pharmaceuticals; Agricultural Technology; Farming; Forestry; Fisheries; others in the Natural Science.

FELLOWSHIP AWARDS

Fellowships include round-trip air tickets (economy class; not available for dependents) and the following allowances:

- 1) Living allowance: 270,000 a month
- 2) Family allowance: 50,000 a month
- 3) Housing: Apartments will normally be provided to awardees. The apartment floor area is 40m² for awardees unaccompanied by their family and 60m² for awardees to stay with their family in other than metropolitan areas such as Tokyo. If an awardee prefers to use a larger apartment because of the family size or otherwise 106,000 maximum per month may be paid as housing allowance; any shortfall is to be borne by the awardee.
- 4) An initial international settling-in allowance: 200,000
- 5) An annual allowance of up to 115,000 for travel within Japan related to research activities.
- 6) Medical insurance (N.B. not available for dependents)

Assistance for Fellows

If they wish, Fellows may take advantage of the following assistance:

- 1) Free Japanese language courses for Fellows whose host research institutes are in Tsukuba area. Fellows whose institutes are located elsewhere are entitled to reimbursement of reasonable amounts for language tuition at a private school. (N.B. not available for dependents);
- 2) Since most apartments in Japan are unfurnished, basic furniture and electric appliances will be provided free of charge to Fellows;
- 3) Counseling on problems relating to such aspects of daily life as children's schooling, medical care and shopping, is available for Fellows living in Tsukuba area.

APPLICATION PROCEDURE FOR STA FELLOWSHIP (Fig 1)

Applicants possessing the nationality or citizenship or permanent resident status of a country listed in Table 1 should:

- 1) Contact the Responsible Organization in their country to obtain an application form and information about the host research institutes.
- 2) Communicate with host research institutes of interest to ascertain their suitability for the applicant's area of specialization.
- 3) After agreeing with the prospective host institute on the subject of research, the length of tenure and starting date for the Fellowship, the applicant should obtain from the institute a formal letter of acceptance expressing its willingness to serve as a host.
- 4) Submit the completed application form and the letter of acceptance to the Responsible Organization concerned. The Responsible Organization will then screen applicants, and submit its recommendations for Fellowship candidates to JRDC through JISTEC, accompanied by a complete dossier on the candidates.
- 5) JRDC will then conduct a further screening and notify successful applicants by sending a Letter of Award through JISTEC. The Responsible Organization and the host research institute concerned will also be informed in this respect.

Fig. 1 Procedural Flow from Contact to Receipt of Award

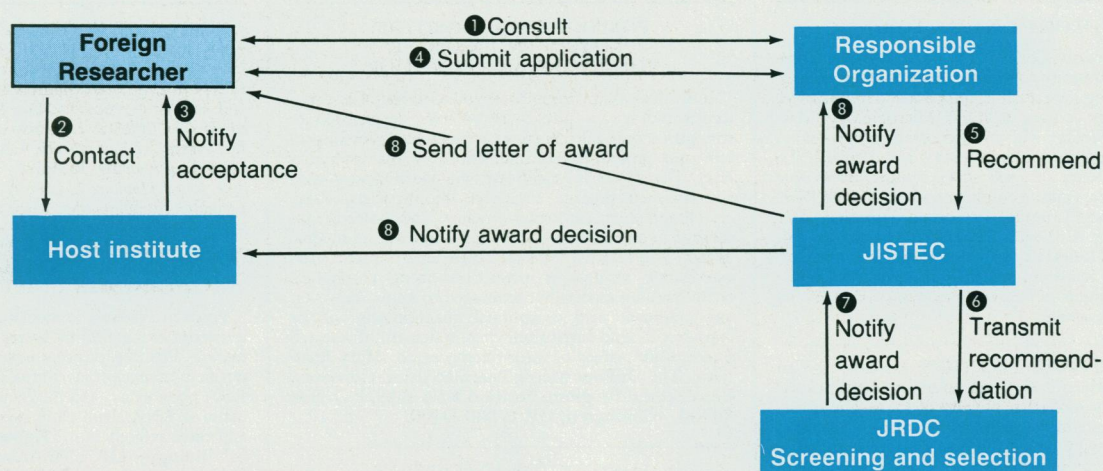


Table 1 RESPONSIBLE ORGANIZATIONS

Country	Contact		
AUSTRALIA	THE AUSTRALIAN ACADEMY OF SCIENCE Ms. Bonnie Bauld International Exchange Officer GPO Box 783, Canberra ACT 2601 Tel: 61-6-247-3966 Fax: 61-6-257-4620	NEW ZEALAND	MINISTRY OF RESEARCH, SCIENCE AND TECHNOLOGY Ms. Lisa Goodman International Science Officer P.O. Box 5336, Wellington Tel: 64-4-472-6400 Fax: 64-4-471-1284
AUSTRIA	FEDERAL MINISTRY FOR SCIENCE AND RESEARCH Ms. Susanna Peterka Administrative Officer, International Affairs Minoritenpl atz 5, A 1014 Vienna Tel: 43-222-531-20-6794 Fax: 43-222-531-20-6205	NORWAY	THE RESEARCH COUNCIL OF NORWAY Ms. Else Boon Advisor P.O. Box 2700 ST. Hanshaugen 0131 Oslo Tel: 47-2-2037000 Fax: 47-2-2037001
CANADA	NATURAL SCIENCE AND ENGINEERING RESEARCH COUNCIL Ms. Eileen P. Garvey Program Officer, Japan Programs 200 Kent Street, Ottawa, K1A 1H5 Tel: 1-1613-947-0190 Fax: 1-613-992-5337	SWEDEN	NUTEK Ms. Heidi Bergman Administrative Program Officer Liljeholmsvägen 32, S-117 86, Stockholm Tel: 46-8-681-9100 Fax: 46-8-19-68-26
GERMANY	ALEXANDER VON HUMBOLDT-STIFTUNG Dr. Michal Meier Department Sponsorship Abroad Jean-Paul-Str. 12, D-5300 Bonn 2 Tel: 49-228-833-101 Fax: 49-228-833-199	SWITZERLAND	SWISS NATIONAL SCIENCE FOUNDATION Dr. Benno G. Frey Head of the Fellowship Section Wildhainweg 20, CH-3012, Bern Tel: 41-31-27-22-22 Fax: 41-31-23-30-09
FINLAND	THE ACADEMY OF FINLAND Ms. Ritva Helle International Affairs P.O. Box 57, SF-00551 Helsinki Tel: 358-0-7748-316 Fax: 358-0-7748-379	UNITED KINGDOM	THE ROYAL SOCIETY Ms. Vida Cody Head of Japan Exchanges 6 Carlton House Terrace, London SW1Y 5AG Tel: 44-71-839-5561 Fax: 44-71-930-2170
FRANCE	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE Ms. Françoise Aubujeault Chief of Asia Division, Mission of International Relations 3-5 rue Michel-Ange, 75781 Paris Cedex 16 Tel: 33-1-44-96-46-91 Fax: 33-1-44-96-49-10	UNITED STATES	NATIONAL SCIENCE FOUNDATION Ms. Janice M. Cassidy Japan Programs, Room 935 Division of International Programs 4201 Wilson Blvd. Arlington, VA 22230 Tel: 1-703-306-1701 Fax: 1-703-306-0476 or 0477
ITALY	MINISTERO DELLA RICERCA SCIENTIFICA E TECNOLOGICA Ufficio Relazioni Internazionali Dr. Maria Enrica Danubio Head of Bilateral Activities International Relation Office Lungotevere Thaon di Revel 76, 00100 Roma Tel: 39-6-3232642 Fax: 39-6-3221584		NATIONAL INSTITUTES OF HEALTH Dr. David A. Wolff Chief, International Research Awards Branch Fogarty International Center Bldg. 31, Rm. B2C39 Bethesda, Maryland 20892 Tel: 1-301-496-1653 Fax: 1-301-402-0779
NETHERLANDS	STICHTING VOOR DE TECHNISCHE WETENSCHAPPEN (STW) Dr. C. A. M. Mombers Program Officer Postbus 3021, 3502 GA Utrecht Van Vollenhovenlaan 661, Utrecht Tel: 31-30-923275 Fax: 31-30-961536	EUROPEAN COMMUNITIES	COMMISSION OF THE EUROPEAN COMMUNITIES Mr. Mario Merla Directorate-General for Science, Research and Development DG XII-G-3 200 Rue de la Loi, 1049 Brussels, Belgium Tel: 32-2-295-39-90 Fax: 32-2-296-33-08

Further information regarding the STA Fellowship and host institute is available from the responsible organizations, or JRDC. (See below)

Research Development Corporation of Japan (JRDC)
Kawaguchi Center Building 1-8, Hon-cho 4-chome, Kawaguchi-city, Saitama Pref. 332, Japan

POSITIONS OPEN

BIOLOGY INSTRUCTOR:

McHenry County College (MCC), a two-year comprehensive community college located northwest of Chicago, is searching for a qualified individual to teach lower division Biology courses including Microbiology. Master's degree in Biology with a broad-based background in Zoology, Botany and Microbiology are required. To apply, submit letter of application, résumé, transcripts and name, address and telephone number of three references to: **Nancy Loomis, Personnel Director, McHenry County College, 8900 U.S. Highway 14, Crystal Lake, IL 60012.** Application deadline April 15, 1994. *MCC is committed to adding diversity to its professional staff. Applications from qualified women and minority candidates are encouraged.*

POSTDOCTORAL POSITION available for an individual interested in working on the virology, cellular immunology, or molecular biology of HIV. The objective is to understand the pathogenesis of HIV infection and mechanisms by which the host can prevent disease progression. Vaccine development is considered. Send curriculum vitae to: **Dr. Jay Levy, Cancer Research Institute, University of California Medical Center, San Francisco, CA 94143-0128.** *The University of California is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION

An NIH-supported postdoctoral position is available at the Weis Center for Research to study mechanisms regulating hormone-mediated calcium signaling in the laboratory of Carl A. Hansen. The project involves the use of microinjection, flash photolysis and microfluorometric techniques to elucidate the determinants for receptor-phospholipase C coupling, Ins 1,4,5-P₃-mediated Ca²⁺ mobilization and activation of Ca²⁺ entry in hepatocytes and cardiac myocytes. The preferred candidate will have a Ph.D. degree and experience with micropipettes, fluorescent-indicator dyes and/or image analysis.

The Weis Center for Research is a modern, well-equipped, medical research facility located in a semi-rural area. Competitive salary and fringe benefits are available. Send curriculum vitae and names of three references to: **Geisinger Human Resources (CAH), 100 North Academy Avenue, Danville, PA 17222-1529.** *Equal Opportunity Employer, M/F/H/V.*

POSTDOCTORAL POSITION OR RESEARCH ASSOCIATE IN VIRAL PATHOGENESIS

Position available immediately to study the genetics, immunology and pathogenesis of rotavirus infection *in vitro* and *in vivo* in a mouse model. Applicant should have a strong background in molecular biology and microbiology. Send résumé, 3 letters of reference, and a statement of research interests and experience to: **Dr. Harry Greenberg, Division of Gastroenterology, Lab Surge, P304, Stanford University School of Medicine, Stanford, CA 94305-5487.** *Stanford University is an Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATE. Available immediately to study oxidations of protein kinase C and protein phosphatases, tumor promoters, and cancer chemoprevention. Experience in protein chemistry and enzymology is desirable. Submit curriculum vitae along with name and telephone numbers of three references to: **Dr. Rayudu Gopalakrishna, Department of Pharmacology and Nutrition, University of Southern California, School of Medicine, Los Angeles, CA 90033.** *USC is an Equal Opportunity/Affirmative Action Employer.*

INTEGRAL MEMBRANE PROTEINS

POSTDOCTORAL POSITIONS are available for studies of the molecular structures and mechanisms of several integral membrane proteins including the human multidrug resistance drug transporter, the human cystic fibrosis transmembrane conductance regulator, and the fungal plasma membrane H⁺-ATPase. Research will involve both biochemical and molecular biological approaches. Send curriculum vitae and names of three references to: **Dr. Gene A. Scarborough, Department of Pharmacology, CB #7365, F.L.O.B., University of North Carolina, Chapel Hill, NC 27599.** *Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION PROTEIN ENGINEERING STRUCTURE AND FUNCTION

Individuals with strong background in chemistry, molecular biology or physics of proteins are desired to strengthen ongoing efforts to characterize protein-protein and protein-ligand interactions at the molecular level. The successful candidate will work closely with accomplished protein engineers, biophysicists, X-ray crystallographers, molecular modelers and molecular biologists in an environment designed to foster individual growth and creativity. Persons experienced in the characterization of protein interactions using biophysical techniques are especially encouraged to apply, however, any candidate with exceptional qualifications will be considered. Send curriculum vitae, statement of research interests and names of three references, to: **Mary Jeanette, The DuPont Merck Pharmaceutical Company, Postdoctoral Program, Position # 94-BAS, P.O. Box 80400, Wilmington, DE 19880-0400.**

POSTDOCTORAL POSITION PROTEIN CRYSTALLOGRAPHY IN STRUCTURE-BASED DRUG DESIGN

A two-year postdoctoral position is available in a multidisciplinary program dedicated to structure-based drug design by combining various fields such as crystallography, biochemistry, molecular biology, computational chemistry and nuclear magnetic resonance. The postdoctoral will have access to state-of-the-art technology including Rigaku R-axis imaging plate, two robotics crystallization units, Silicon Graphics power series ONYX computer and workstation and a CRAY Y-MP supercomputer. The successful candidate should have a Ph.D. with training in protein crystallography. Experience in molecular genetics and/or protein chemistry is preferred although not mandatory. Send curriculum vitae, statement of research interests and names of three references to: **Mary Jeannette, The DuPont Merck Pharmaceutical Company, Postdoctoral Program, Position # 94-CHC, P.O. Box 80400, Wilmington, DE 19880-0400.**

PROTEOLYNS IN ALZHEIMER'S DISEASE

Two **POSTDOCTORAL POSITIONS** available (April 1, 1994) in the laboratory of **Dr. Alan Snow** in the Department of Pathology at the University of Washington in Seattle. Research in Dr. Snow's lab focuses on the role of proteoglycans (PG's)/glycosaminoglycans (GAG's) in the pathogenesis of amyloidosis in Alzheimer's disease (AD). Candidates with experience in PG/GAG biochemistry and/or amyloidosis are preferentially sought. Research will include (1) further development of a rat model of AD amyloidosis with specific assessment of neurodegenerative and behavioral consequences of amyloid in brain; (2) development of therapeutics targeting PG-beta-amyloid protein interactions; (3) *in situ* hybridization techniques using PG probes in brain tissue; and/or (4) PG/GAG biochemical techniques for isolation and characterization of PG's/GAG's present in AD brain tissue and lesions; Monies for 3-year postdoctoral fellowships available. Applicants must send curriculum vitae and reference list to: **Dr. Alan D. Snow, University of Washington, Department of Pathology, Neuropathology Labs RJ-05, Seattle, WA 98195.** Preferential candidates will be invited to Seattle for interviews.

POSTDOCTORAL POSITION. A postdoctoral research fellowship funded by an NIH training grant is available in the Division of Nephrology, Department of Medicine, Case Western Reserve University School of Medicine. The successful candidate can choose to work with one of ten faculty mentors in the Departments of Medicine, Physiology/Biophysics, or Pathology. Diverse research interests are represented by these laboratories with an emphasis on cell biology and molecular biology of signal transduction pathways in cultured renal cells. Please address inquiries and curriculum vitae to: **Michael J. Dunn, M.D., Professor of Medicine and Physiology/Biophysics, Division of Nephrology, Department of Medicine, Case Western Reserve University, School of Medicine, 11100 Euclid Avenue, Cleveland, OH 44106.**

The University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION: Available for biologist, chemist, chemical engineer, or biomedical engineer interested in developing controlled release polymers for stimulating mucosal immunity. Send curriculum vitae and list of references to: **Dr. Mark Saltzman, Department of Chemical Engineering, The Johns Hopkins University, 3401 North Charles Street, Room 24 New Engineering Building, Baltimore, MD 21212.** *The Johns Hopkins University is an Equal Employment Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION TRANSCRIPTIONAL REGULATION WASHINGTON UNIVERSITY, ST. LOUIS

Position available immediately to study regulation of transcript elongation by bacterial or human RNA polymerase. Possible projects include structural analysis of purified transcription complexes, genetic dissection of RNA polymerase, and mechanism of HIV Tat enhancement of RNA chain elongation. Send curriculum vitae and three references to: **Robert Landick, Department of Biology-1137, Washington University, One Brookings Drive, St. Louis, MO 63130.** *Equal Opportunity Employer.*

POSTDOCTORAL TRAINING POSITIONS IN EXPERIMENTAL HEMATOLOGY AND IMMUNOLOGY available immediately. *Must meet NIH National Research Service Award eligibility requirements (U.S. citizen or permanent resident).* Send curriculum vitae and brief research summary to: **Phyllis A. Mobraaten, The Jackson Laboratory, Box 65-H, 600 Main Street, Bar Harbor, ME 04609.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION BIOLOGICAL-IMAGING, UC BERKELEY

A postdoctoral position is available in the Laser-Feedback Microscope Research Group developing high-resolution, quantitative laser-feedback microscopy (LFM) for use in the biological and physical sciences, engineering, and medicine. See: *Optics Lett.* 18:238-240 (1993) and *Proc. 51st Ann. Meeting Microsc. Soc. Am., Cincinnati, 1993*, pp. 84-85. Candidates should hold a Ph.D. in plant or animal cell biology or related fields with extensive experience in scanning confocal microscopy and the preparation of biological materials for optical microscopy. Essential are: excellent experimental skills in the preparation and handling of biological samples, a working knowledge of the optical principles of microscopy, and some experience with computers as applied to imaging. Appointment will be for one year beginning July 1, 1994, and renewable dependent on performance and the continued availability of funds. Letters of application to: **Professor Alan Bearden, MCB-Neurobiology, 229 Stanley Hall, University of California, Berkeley, CA 94720-3206** should contain names and telephone numbers of no more than three persons who may be contacted as professional references. *Applications from women and minority biological scientists are encouraged.*

POSTDOCTORAL POSITIONS available immediately. One project is to identify adhesion molecules mediating sickle red cell adhesion to matrix proteins. Experience in protein or carbohydrate biochemistry and isolation helpful. Second project involves "inside-out" and "outside-in" signal transduction as related to integrin adhesion receptor function and activation, using human blood platelets and/or cultured cells. Salary commensurate with experience. Specify project(s) of interest and send or FAX curriculum vitae with names of three references to: **Dr. Leslie V. Parise, Department of Pharmacology, CB# 7365, University of North Carolina, Chapel Hill, NC 27599.** FAX: (919) 966-5640. *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available to study biochemical mechanisms of intracellular protein degradation with specific focus on the proteasome, proteasome regulatory proteins and ubiquitin-dependent proteolysis (*JBC* 267:10515; 268:22514; 269:3539 and *JMB* 236:7). Candidates should have strong backgrounds in biochemistry and/or molecular biology. Excellent opportunity in a stimulating, interactive environment. Send curriculum vitae and names of three references to: **George N. DeMartino, Ph.D., UT Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9040.** *An Affirmative Action/Equal Opportunity Employer.*

**NEW ZEALAND
UNIVERSITY OF CANTERBURY
LECTURER IN BIOCHEMISTRY**

Applications are invited for a newly established Lectureship in the Department of Zoology. The appointee will be required to develop and contribute to undergraduate and postgraduate courses in Biochemistry, supervise graduate students, and engage actively in research.

Candidates should have training in biochemistry, a Ph.D. or equivalent qualification, and relevant teaching and research experience. The University offers B.Sc. (Hons) and postgraduate degrees in Biochemistry with courses being taught by staff of the Zoology, Plant and Microbial Sciences, and Chemistry Departments. Degrees in Cellular and Molecular Biology are also offered.

The Department of Zoology has active teaching and research programmes in animal behaviour, cell physiology, comparative animal physiology, eukaryotic molecular biology, genetics, limnology, marine biology, and neurobiology. The appointee will be encouraged to interact with one or more of these groups within the Department.

Enquiries may be made to the Head of Department, Professor M J Winterbourn:
email: Zool179@csc.canterbury.ac.nz
or FAX 64 3 364 2024.

The salary for Lecturers is on a scale from NZ\$40,000 to NZ\$50,000 per annum.

Applications close on 31 May 1994.

Further particulars and Conditions of Appointment may be obtained from the undersigned. Applications, quoting Position No. Z097, must be addressed to: A.W. Hayward, Registrar, University of Canterbury, Private Bag 4800, Christchurch, New Zealand.

The University has a policy of equality of opportunity in employment.



**Directorship of the
Institute of Molecular Biology**

(Ref. 93/94-30)

Applications are invited for the post of Director of the Institute of Molecular Biology, tenable from October 1, 1994. Since its establishment in 1990 until now, the Institute has been under the part-time Directorship of Professor Y. W. Kan, FRS. With the completion of the 900m² Institute building expected in September 1994, the University now seeks to recruit a full-time director.

Applicants must possess a doctorate degree, have a proven track record in biomedical research using molecular and cell biology techniques and have significant internationally recognized achievements in this area. The Director is expected to lead one research team as well as to manage and oversee the other research teams in the Institute. A successful record in research and in supervision of postgraduate students and management of large research groups would be preferable.

The University reserves the right not to fill the post or to fill the post by invitation or to make an appointment at a lower level.

Annual salary (superannuable) will be within the professorial range, of which the minimum is HK\$836,580 and the average is HK\$1,034,760 (approx. US\$108,647 & US\$134,384 respectively; US Dollar equivalents as at February 17, 1994), with starting salary depending on qualifications and experience. At current rates salaries tax will not exceed 15% of gross income. Housing at a charge of 7.5% of salary, children's education allowances, leave, and medical benefits are provided.

Further particulars and application forms may be obtained from the Appointments Unit, Registry, The University of Hong Kong, Hong Kong (fax: (852) 559 2058; E-mail: APPTUNT@HKUVM1.HKU.HK). Closes **29 April 1994**.

**THE UNIVERSITY OF THE WEST INDIES
St. Augustine, Trinidad**

Applications are invited for the following vacancies:

School of Medical Sciences

**SENIOR LECTURER/
LECTURER IN
BIOCHEMISTRY/
MOLECULAR BIOLOGY**

Applicants should have a first degree in Biochemistry, Molecular Biology or Microbiology and a PhD in Biochemistry or Molecular Biology with at least 2 years postdoctoral research experience in Biochemistry or Molecular Biology.

ANNUAL SALARY RANGES: Medical: Senior Lecturer TT\$90,660 - TT\$109,080; Lecturer TT\$71,232 - TT\$79,152 (B) - TT\$89,052 plus Institutional Allowance ranging from 10% - 30% of basic salary depending on post. **ANNUAL REGIONAL ALLOWANCES:** Senior Lecturer TT\$12,204; Lecturers above Bar TT\$7,884; Lecturers below Bar TT\$4,380. Passages, Pension, Housing Allowances, Study and Travel and Book Grants. Applications naming three referees and detailing qualifications and experience to the Registrar, University of the West Indies, St Augustine, Trinidad, as soon as possible. Further particulars sent to all applicants; these are also available from the Appointments (42566), Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, UK (tel. 071 387 8572 ext. 206; fax 071 383 0368).

**GENOME SEQUENCING
RESEARCH
at Cold Spring
Harbor Laboratory**

A postdoctoral position is available immediately to begin work on large-scale automated DNA sequencing. The overall goal of the program is to create an integrated system for the analysis of complex genomes using the fission yeast *Schizosaccharomyces pombe* as a model. The primary focus for this position will be on the development of new techniques and strategies to fully utilize the potential of automated DNA sequencers and the application of these to the sequencing of the *S. pombe* genome. Experience with fission yeast is not necessary. Experience with automated DNA sequencers or in genome related research is desirable, but not essential. Motivated candidates with a strong background in basic microbiology, molecular biology, genetics or biochemistry will be considered.

Cold Spring Harbor Laboratory offers an outstanding combination of intellectual environment, physical setting and state-of-the-art lab facilities. This research will be carried out in the McClintock Building, a newly remodeled (1993) laboratory. Interested candidates should send a curriculum vitae, and arrange to have three letters of reference sent, to: **Dr. W. Richard McCombie, Cold Spring Harbor Laboratory, P.O. Box 100, Cold Spring Harbor, New York 11724.**

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Sr. Scientist/Principal Scientist

Microbiology

The R.W. Johnson Pharmaceutical Research Institute (RWJPR) is a worldwide research and development organization within Johnson & Johnson, the world's largest and most comprehensive provider of health care products. The mission of RWJPR is to discover and develop biotechnology-derived and traditional drugs which will drive the growth of the Johnson & Johnson companies...Cilag, Ortho-McNeil Pharmaceutical and Ortho Biotech.

We have an immediate opportunity within our Microbiology Research Department for a candidate with a PhD Microbiology and a strong background in biochemistry. Postdoctoral experience desired. At least 2 years of industrial experience is required that demonstrates your ability to develop *in vivo* models to discover novel anti-infective agents. Experience in *in vitro* evaluation of anti-infectives and clinical microbiology is desirable. The successful candidate will be responsible for planning, initiating and supervising studies in the evaluation of antimicrobial agents.

We offer a competitive salary and comprehensive benefits including medical/dental insurance, 401(k) plan, tuition reimbursement, and our LIVE FOR LIFE Wellness Program with on-site fitness center. Ours is a smoke-free workplace located midway between New York City and Philadelphia.

Please send resume including salary history to: Ms. P. Merski, HR Dept. 19, R.W. Johnson Pharmaceutical Research Institute, P.O. Box 300, Raritan, NJ 08869-0602.

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PROTEIN X-RAY CRYSTALLOGRAPHER

A protein crystallography laboratory is being established with intramural funding to conduct an original research program and to interact with other scientists within the NIH intramural program. Ph.D. or M.D. applicants should have a record of achievement in solving protein structures by X-ray crystallography. Salary commensurate with credentials and research experience.

Qualified and interested candidates should send curriculum vitae and names and addresses of three references to:

John E. Coligan, Ph.D.
Chief, Laboratory of
Molecular Structure
NIAID, NIH
Bldg. 4, Room 413
9000 Rockville Pike
Bethesda, MD 20892



(301) 496-3213 phone
(301) 402-0284 fax

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Temple University School of Medicine

Faculty Positions, The Department of Microbiology and Immunology

The Department of Microbiology and Immunology invites applications for several tenure-track Faculty positions at the Assistant Professor, Associate Professor or Professor level, as part of the second phase of a major expansion. We are particularly interested in: (1) molecular immunologists or cellular immunologists employing contemporary molecular biology approaches; (2) investigators in molecular pathogenesis. The successful candidates will be expected to have significant research accomplishments, ability to establish and maintain a vigorous research program that will attract peer-reviewed funding and a commitment to excellence in educating graduate and medical students. Applicants at the Associate Professor or Professor level should demonstrate a consistent record of independent peer-reviewed funding and should have active competitive grants. Start up funds and newly renovated space are available for the appointed investigators.

The Department of Microbiology and Immunology is supported by extensive peer-reviewed funding and has a very strong graduate program providing students with advanced training in molecular microbiology and immunology. Interactions are encouraged with other basic and clinical departments and the Fels Institute for Cancer Research and the Thrombosis Center of Temple University School of Medicine.

Interested individuals should send a curriculum vitae, bibliography, a summary of research achievements and research plans and the names and addresses of four references to: **Chris D. Platsoucas, Ph.D., Professor and Chairperson, Department of Microbiology and Immunology, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, PA 19140.**

Temple University is committed to Affirmative Action/Equal Employment Opportunity and strongly encourages applications from women and minorities.

CLONTECH Laboratories, Inc. is a growing company specializing in innovative products that support molecular biology research worldwide. We currently have the following career opportunities:

SCIENTIST • Protein Biochemistry/Enzymology

You will lead research in the area of novel proteins and enzymes. The successful candidate will have an innovative approach for the development of protein related products used in basic science research. Experience with enzyme assay development and expression, characterization, and purification of proteins is essential. This position requires a Ph.D. with 2-3 years of postdoctoral or industrial experience or an M.S. with 3-5 years related work experience. (JOB# 3185-SPBE)

PRODUCT MANAGERS

Two positions in Product Management are available for B.S., M.S., or Ph.D. level candidates with previous product management experience in the life sciences research market. The successful candidates will provide strategic planning, develop & implement marketing activities and coordinate either enzymes or research related kits and reagents. (JOB# 3185-PM)

POST-DOCTORAL RESEARCH

A position is available for a Ph.D. with research training in Molecular Biology and familiarity with human genome research. The successful candidate will be engaged in the NIH-supported Human Genome Project involving cloning & mapping of dissected chromosomes. (JOB # 3185-PDR)

CLONTECH is located in the hub of Silicon Valley, close to Stanford University and more than 200 biotechnology companies. In addition to attractive salaries & benefits, we offer a stimulating work environment that encourages career growth. To apply, please send FAX resume & cover letter to: CLONTECH Laboratories, Inc., Attn: HR Dept., JOB# _____, 4030 Fabian Way, Palo Alto, CA 94303. FAX: (415) 424-1352 EOE

CLONTECH

BIOPROCESS APPLICATION SPECIALISTS

Challenging opportunities are presently available for a number of technically proficient and extremely motivated people to work in our recently augmented Bioprocess Technology Applications Group.

The successful candidates will be involved in executing consultative work in downstream chromatographic purifications. They will also be involved in developing chromatography applications studies as well as educational courses run by Pharmacia Bioprocess Technology. These positions will be based at our New Jersey facility and will involve travel 20-30% of the time.

To be considered for the positions, the applicants must hold an M.S. degree in the life or health sciences (Ph.D. preferred), be computer literate in DOS, OS/2 and have at least 5 years experience in chromatography.

We are looking for hands-on bench oriented people who wish to use their experience in a challenging team oriented environment. Please forward your resume which must include salary history and requirements to: Human Resources, Dept. A.S., Pharmacia Biotech Inc., 800 Centennial Ave., Piscataway, NJ 08855-1327. We are an equal opportunity employer M/F/D/V.



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Postdoctoral Fellows

Onyx Pharmaceuticals is a dynamic young company engaged in the development of small molecule therapeutics for cancer and other diseases associated with abnormal cell growth. Our research focuses on tumor suppressor genes and *ras* and its superfamily, fundamental mechanisms governing many cell functions including growth and differentiation.

We are currently seeking recent Ph.D.s with extensive experience in molecular biology/biochemistry and a keen interest in tumor suppressor genes to conduct basic research alongside our team of scientists in our ongoing efforts to dissect pathways upon which the p53 and the retinoblastoma tumor suppressor proteins function. Our current research is focused on existing as well as novel gene products which contribute to the functions of these tumor suppressor proteins, and their link to cell cycle progression and programmed cell death.

ONYX is located in the San Francisco Bay Area, not far from Berkeley. A highly interactive atmosphere prevails, where publications and collaborations are strongly encouraged. We offer a competitive salary and benefits package which includes stock options. If you are interested in joining us, please send your resume and a list of references to: Onyx Pharmaceuticals, Department AF-S, 3031 Research Drive, Richmond, CA 94806. EOE

ONYX

PHARMACEUTICALS

RESEARCHER needed for co. located in central OH. Job duties include participating in research and development programs for hazardous waste treatment and pollution prevention. Perform computer modeling of transport in soils and hazardous water treatment. Conduct risk assessment, evaluation and develop methodologies for treatment and prevention of industrial waste in multiple environments. Involved in the analysis/application of water quality including BOD, COD, TSS, pH, Alkalinity, Turbidity, and Conductivity. Also involved in analysis/application of Jar Test, Sludge Volume Index Determination, Heavy Metals Extraction and Analysis, Coagulation Treatment Process, Activated Sludge Treatment Process, and Activate Carbon Adsorption Process. Will use the following equipment: electrophoretic mobility analyzer, spectrophotometer, TOC analyzer, Thermogravimetric Analyzer and High Heat/pressure Sterilization system. Will use EXCEL, LOTUS 1-2-3, WordPerfect, GRAPHIC package using PC or Mac w/Cad for engineering applications to design treatment devices, and statistical software package. Prepare reports, make presentations, and design treatment devices. Will travel to offsite locations for field studies. Applicant must have Master of Science degree in Engineering or Environmental Science. Applicant must have 2 yrs. exp. in job duties described above or 2 yrs. exp. which must include: 1 yr. exper. w/electrophoretic mobility analyzer and Thermogravimetric analyzer; 2 yrs. exp. water and soil testing, analysis and treatment for waste minimization and pollution control; 2 yrs. exp. w/spectrophotometer, TOC Analyzer and High Heat/Pressure Sterilization. Also min. of 2 courses in microbiology, 1 course each of organic chemistry, environmental chemistry, statistics, engineering mathematics, and grad. level mathematics; M.S. Thesis involving research combining mathematics, physics, and analytical surface chemistry. 2 yrs. exp. may be gained before, during, or after degree. Must present proof of legal authority to work indefinitely in the U.S. 40 hrs. per wk. 8 a.m. to 5 p.m., M-F \$31,800/yr. All resume should be submitted in duplicate (no calls) to: J. Davies, JO# 1333291, Ohio Bureau of Employment Services, PO Box 1618, Columbus, OH 43216.

POSITIONS OPEN

POSTDOCTORAL POSITION. NIH-sponsored project to study the mechanism of glycogen phosphorylase (gp2) gene regulation in *Dictyostelium*. The goals include (1) site-directed mutagenesis and deletion analysis of the gp2 promoter, and (2) cloning and/or purification of transcription factors for the gp2 promoter. Contact: Dr. Charles L. Rutherford, 2031 Derrington Hall, Virginia Tech University, Blacksburg, VA 24061; Telephone: (703) 231-5349; FAX: (703) 231-9307, or rutherford@vtvm1.cc.vt.edu.

POSTDOCTORAL POSITION available immediately for studies of membrane transport proteins. Of primary interest is the mitochondrial phosphate transport protein (PTP). The protein and the coupling of its H⁺ and P_i⁻ transport pathways are being characterized with various chemical probes, biophysical methods, and mutations. Individuals with training in molecular biology and/or (membrane) protein biochemistry are invited to send curriculum vitae and names of three references to: Dr. Hartmut Wohlhab, Boston Biomedical Research Institute/Harvard Medical School, 20 Staniford Street, Boston, MA 02114. *Equal Opportunity Employer.*

POSTDOCTORAL POSITION CELL BIOLOGY

Applications are invited for a postdoctoral fellowship to study the role of proteinases, particularly plasminogen activators, in keratinocyte migration and differentiation. Biochemical, molecular biological, and microscopic approaches will be utilized. Opportunities for interactions with other basic scientists in the university community are available and encouraged. Send curriculum vitae, including description of research experience to: Pamela J. Jensen, Ph.D., Department of Dermatology, University of Pennsylvania, 242 CRB, Philadelphia, PA 19104-6142.

University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION TO STUDY MOLECULAR BIOLOGY OF ANTICANCER AGENTS using shuttle vectors. We have evidence for a novel DNA repair pathway for interstrand crosslinks that operates in both bacterial and human cells and has potential implications for the mechanism of action of certain anticancer drugs. Molecular biological, genetic, and tissue culture techniques. Available immediately. Send curriculum vitae and reference letters to: Edward L. Loechler, Department of Biology, Boston University, 5 Cummington Street, Boston, MA 02215. *An Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN MOLECULAR IMMUNOLOGY to identify and characterize the cellular targets of a novel viral polypeptide that inhibits antigen presentation to T lymphocytes. Experience with molecular techniques required. Send curriculum vitae and list of three references and telephone numbers to: Dr. David Johnson, Room 4H30/HSC, McMaster University, Hamilton, Ontario, Canada L8N 3Z5.

POSTDOCTORAL RESEARCH TRAINING FELLOWSHIPS

Fellowships available to residents of North America with Ph.D., M.D., or comparable degree and less than one year of postdoctoral laboratory experience by application date for beginning training in basic biomedical research. The three-year award consists of a stipend of \$25,000 per year for each of the three years; \$2,000 per annum research allowance; travel to fellowship location; annual meeting. Application deadline August 15; fellowships activate following July. For application forms, write, telephone, or FAX: The Helen Hay Whitney Foundation, 450 East 63rd Street, New York, NY 10021; Telephone: 212-751-8228, or FAX: 212-688-6794.

RESEARCH ASSOCIATE—To conduct research in the area of retinoids, hormone secretion and diabetes. This involves Northern, nuclease protection assays and transfection studies. Will supervise technicians, write research reports and grant proposals. Salary: \$30,000 plus per year. Requires Ph.D. and experience in molecular biology. Send curriculum vitae with names and telephone numbers of references and three letters of recommendation to: Dr. Bruce S. Chertow, Marshall University School of Medicine, Department of Medicine, Huntington, WV 25701. *Equal Opportunity Employer.*

POSITIONS OPEN

CAMILLE AND HENRY DREYFUS POSTDOCTORAL FELLOWSHIP IN BIOCHEMISTRY (2 years) for recent Ph.D.'s interested in careers that balance research and teaching at undergraduate-oriented institutions. Research on expression, regulation and structure of iron and copper binding proteins. Some mentored teaching. Send curriculum vitae, names of three references, and summary of career goals to: Dr. Maria C. Linder, Chemistry, California State University, California State University, Fullerton, CA 92634. *Affirmative Action/Equal Opportunity/Title IX Employer.*

INSTITUTE OF ECOSYSTEM STUDIES CARY POSTDOCTORAL FELLOWSHIP IN ECOLOGY

The Institute of Ecosystem Studies announces the availability of the Cary Postdoctoral Fellowship in Ecology for fall 1994. The Fellow will interact with a diverse group of ecologists and ecosystem scientists. The Fellowship is for one year and may be renewed for a second year. Applicants must have a Ph.D. Submit a statement of research interests, curriculum vitae, and three letters of reference to: Dr. Peter M. Groffman, Institute of Ecosystem Studies, Box AB, Millbrook, NY 12545. Deadline for applications: 1 June 1994.

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

SENIOR STAFF FELLOW OR VISITING ASSOCIATE: A position as Senior Staff Fellow or Visiting Associate is available in the National Institute of Child Health and Human Development. Applicants should possess an M.D. and/or Ph.D. degree and have experience in the field of growth factors for the nervous system, in particular the molecular biology of nerve growth factor and the other members of the neurotrophin family, their receptors, the signal transduction pathways initiated by them, and their relationship to mitogenic and oncogenic factors. Knowledge of cell culture systems as models of neuronal differentiation is also required. Salary range \$40,000 to \$50,000 per annum according to qualifications and experience. Send curriculum vitae and names of three references by April 15, 1994, to: Dr. Gordon Guroff, Chief, Section on Growth Factors, Building 49, Room 5A64, National Institutes of Health, Bethesda, MD 20892. *NIH is an Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE

Position available to study immunochemical and cellular aspects of mucosal immunity. Experience in cellular immunology preferred. Background in modern molecular biology is also desirable. Send curriculum vitae and names of three references to: Dr. Paul C. Montgomery, Professor and Chair, Department of Immunology and Microbiology, Wayne State University Medical School, 540 East Canfield Avenue, Detroit, MI 48201.

Equal Opportunity/Affirmative Action Employer.

MOLECULAR BIOLOGISTS SIGNAL TRANSDUCTION

RESEARCH ASSOCIATE POSITIONS: Highly experienced and productive individuals wanted to investigate signal transduction pathways (PKC, raf-ras, lipid second messengers) or cell cycle-dependent regulation of phospholipid biosynthesis in yeast. Doctorate required. Send curriculum vitae, references and list of publications to: Dr. Robert M. Bell, Chairman, Department of Molecular Cancer Biology, Duke University Medical Center, Box 3711, Durham, NC 27710. Deadline for applications is April 18, 1994. *Duke University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSISTANT—duties include: Collect and perform DNA analysis on human blood virus samples, record findings via computer, and maintain inventories and order supplies for laboratory. Requirements: B.S. or equivalent degree in Biology or Chemistry; and two years of experience in job offered or in research involving molecular analysis of blood. Salary: range \$20,000 to \$28,000 per year; 40 hours per week, 8:00 a.m. to 4:30 p.m. Send résumé to: Arkansas Employment Security Department, P.O. Box 34047, Little Rock, AR 72203.

POSITIONS OPEN

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.

SENIOR ASSOCIATE, WORLD RESOURCES INSTITUTE (WRI). WRI, an independent policy research organization, seeks applicants for Director of its U.S. Sustainability Project: a two-year effort to develop a vision of, and policies to achieve, a more sustainable future for the United States. Candidates should have an advanced degree, or equivalent experience, in economics, public policy, technology policy, or similar field; proven skills in management of complex projects; and excellent written and oral communication skills. Send curriculum vitae to: Climate, Energy, and Pollution Program, World Resources Institute, 1709 New York Avenue, NW, Washington, DC 20006. *Equal Opportunity Employer. Women and minorities encouraged to apply.*

POSTDOCTORAL RESEARCH ASSOCIATE

An NSF-funded position is available to characterize genes, regulatory proteins and potential signal molecules (methoxylated indoleamines) involved in the photoperiodic induction of flowering in higher plants, including *Pharbitis nil* and *Arabidopsis*. Requires a Ph.D. and experience in biochemistry and molecular biology. Position available for up to three years. Send curriculum vitae with the names of three references and a statement of career interests and goals to: Dr. Sharman O'Neill, Section of Plant Biology, Division of Biological Sciences, University of California, Davis, CA 95616.

ASSOCIATE RESEARCH SCIENTIST: Research on membrane transport characteristics of corneal endothelium, physiological, biophysical, biochemical, and molecular biological aspects. Measurements of membrane potential difference, membrane permeability, and cell volume regulation, including molecular modeling and site-directed mutagenesis of membrane transport proteins. Ph.D. or M.D.; training in ophthalmology preferred. Salary: \$29,000 per year. Start: 1 July 1994. Send curriculum vitae to: Dr. Jorge Fischberg, Columbia University, Department of Ophthalmology, 630 West 168th Street, New York, NY 10032. *Columbia University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH AWARDS

The International Life Sciences Institute Research Foundation (ILSI Research Foundation) anticipates that funding for a basic research project in **TOXICOLOGY** or **ENVIRONMENTAL HEALTH** (to include human nutrition), of up to \$100,000 over 3 years, will be available in 1995. The purpose of the award is to encourage innovative, new investigators in basic biomedical sciences to apply modern knowledge and techniques to basic problems related to comparative toxicology or environmental influences on growth, development and aging. The deadline for submitting preproposals (2 to 3 pages) is May 27, 1994. For further information, write: Award Administrator, ILSI Research Foundation, 1126 Sixteenth Street, NW, Box RF, Washington, DC 20036; FAX: 202/659-8654.

UAB Department of Psychiatry seeks BC/BE **PSYCHIATRIST** for part-time appointment in Division of Medical/Surgical Psychiatry. Clinical duties divided between Psychiatric Consultation Service and outpatient clinic for patients with concurrent mental and physical disorders. Attractive salary, benefits. Liaison opportunities available, opportunities to teach medical students/residents and participate in clinical research. Balance of clinical versus academic duties negotiable. Contact or send curriculum vitae, references to: John L. Shuster, M.D., Director, Division of Medical/Surgical Psychiatry, UAB at Birmingham, Smolian Building, 1700 7th Avenue, South, Room 228, Birmingham, AL 35294-0018; Telephone: (205) 934-5151. *Affirmative Action/Equal Opportunity 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.

Biochemistry and Biophysics of Signal Transduction **Burton J. Litman, PhD**

The visual transduction system is being used as a model for studying G protein coupled receptor pathways. The role of ethanol, general anesthetics, and phospholipid acyl chain polyunsaturation in modulating membrane structure and function is being explored using a novel combination of spectroscopic techniques and enzyme assay measurements. Applicants should have training in membrane biophysics/biochemistry and less than five years postdoctoral training. Laboratory of Membrane Biochemistry and Biophysics (OE-44), NIAAA, 12501 Washington Avenue, Rockville, MD 20852.

Cellular Biology **K. H. Iwasa, PhD**

Current studies of auditory sensory organ function are focused on the hair cells and strial marginal cells in the mammalian cochlea. The voltage dependent mobility of outer hair cells and ion currents in the strial marginal cells are being analyzed using patch clamping and other electrophysiological techniques. Applicants must have previous experience using these techniques and less than five years of postdoctoral experience. Laboratory of Cellular Biology (OE-44), NIDCD, Building 9, Room 1E124.

Control of DNA Replication **Dhruba K. Chattoraj, PhD**

Mechanisms that regulate initiation of DNA replication are being studied *in vivo* and *in vitro* using plasmids of *E. coli*. Current projects include: plasmid replication during the cell cycle; quantitative analysis of DNA-protein and protein-protein interactions; protein structure-function relations; and mechanisms of chaperone-mediated protein folding. Candidates should have less than five years of postdoctoral experience and background in molecular genetics. Experience in protein purification is preferred. Laboratory of Biochemistry (OE-44), NCI, Building 37, Room 4D18.

Developmental Genetics of the Mammalian Ovary **Jurrien Dean, MD**

A number of aspects of ovarian biology are being studied including: characterization of the genes involved in female sex-determination; mechanisms of oocyte-specific gene expression; and structure-function relationships of zona pellucida proteins and sperm surface macromolecules in fertilization. Investigations utilize a wide range of molecular, cellular, and genetic approaches. Applicants must have less than five years postdoctoral experience. Laboratory of Cellular and Developmental Biology (OE-44), NIDDK, Building 6, Room B1-26.

Human Genetics **Dean Hamer, PhD**

The role of genes in complex human characteristics and diseases is being studied by gene mapping and linkage analysis and a number of molecular approaches. The main focus is on the genetics of sexual orientation. Other areas of study include psychological traits, handedness, the progression of HIV infection, and breast cancer. Applicants must have less than five years post-

doctoral experience. Laboratory of Biochemistry (OE-44), NCI, Building 37, Room 4A13.

Human Genetics and Neurobiology **Wen Liang Yan, MD, PhD**

Human language and behavioral disorders such as developmental dyslexia and attention deficit and hyperactivity disorder (ADHD) are being studied with positional cloning approaches. Genetic markers and candidate genes will be tested in affected pedigrees to search for linkage or mutations. Other projects include the development of novel approaches for studying neural development and human polygenic traits. Applicants with training in biochemistry and molecular biology preferred. Laboratory of Molecular Genetics (OE-44), NIDCD, Building 36, Room 5D26.

Molecular and Cell Biology **Y. Peng Loh, PhD**

The intracellular trafficking and processing of pro-hormones are being studied. Molecular and cell biological tools are used to identify the molecular signals and mechanisms for sorting and targeting pro-hormones to the regulated secretory pathway. Enzymes involved in pro-hormone processing are also being analyzed. Applicants must have training in recombinant DNA technology, protein biochemistry and cell culture techniques and less than five years postdoctoral experience. Laboratory of Developmental Neurobiology (OE-44), NICHD, Building 49, Room 5A38.

Additional Postdoctoral Fellowship Opportunities

For an on-line listing of additional postdoctoral openings you may access the NIH EDNET Bulletin Board's POSTDOC conference by Internet (tn3270.cu.nih.gov) or via modem (1,3014022221 or 1,8003582221). The settings for modem access are "7,Even,1". When connected to NIH, type in "vt100" at the connect message, "F5E" at initial, and "AJL1" at account.

The Postdoctoral Research Fellowship Opportunities catalog, which describes additional opportunities at the NIH, may be requested from the address below. An electronic version of the catalog may be accessed via the network-based (Internet) Gopher Information System. To access the NIH Gopher server, Gopher client software (available via anonymous ftp "boombox.micro.umn.edu") must be running on your computer and configured to point to "gopher.nih.gov" and port "70". Select *Grants and Research Information* to reveal the *NIH Office of Education* directory. Those interested in receiving information on other postdoctoral opportunities, clinical training opportunities, or accessing Gopher may contact the Office of Education, Building 10, Room 1C129. Phone: 301-496-2427.

To Apply

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



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Topics to be addressed include: viral evasion, gene regulation, modulation of immune function, and cellular response as it relates to cytokines. Molecular mechanisms and applications for a variety of human diseases will be discussed.

Faculty:

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Robert Ricciardi	Kenneth Rock	Robert Schreiber
Robert Silverman	George Stark	Moshe Talpaz
Howard Thomas	Catherine Verfaillie	Jan Vilcek
Brian Williams	George Yancopoulos	

Submission of abstracts for posters is encouraged. For further information regarding brochures, registration, and abstract forms, please contact:

Leslie Nies, Sero Symposia, USA
100 Longwater Circle, Norwell, MA 02061
Tel: 800-283-8088/Fax: 617-982-9481

Senior Molecular Biologist

The Cardiovascular Therapeutics Department of PARKE-DAVIS Research is seeking a Senior Molecular Biologist with an outstanding background in mammalian cell gene expression and regulation.

A unique opportunity is being offered for leadership in molecular aspects of the department's present and future research directions, with major emphasis on identification of molecular/mechanistic targets leading to the discovery of novel therapeutic agents. PARKE-DAVIS has a major commitment to cardiovascular research with the Therapeutics Department being internationally recognized. Applicants must possess a PhD or MD, with post-doctoral training, and at least 5 years of research experience. A strong record of research in molecular biology of the cardiovascular system is preferred.

Interested individuals should forward their resume and a list of references to **Box DCS-94003, PARKE-DAVIS Pharmaceutical Research, Human Resources, 2800 Plymouth Road, Ann Arbor, MI 48105.** "Smoke-Free Work Environment."



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Janis Crowley 212-496-7704

Space Reservation Deadline: 5 April 1994

22 April 1994 Issue

THE SECOND INTERNATIONAL CONFERENCE ON THE VARICELLA-ZOSTER VIRUS

LE PALAIS DES CONGRÈS PARIS, JULY 7 AND 8, 1994

Sponsored by

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MEETING HIGHLIGHTS:

Plenary and poster sessions on the varicella-zoster virus (VZV) and post-herpetic neuralgia (PHN) including:

- Basic science • Immunology and epidemiology
- PHN and pain management

Views of Paris and dinner on a boat on the Seine

REGISTRATION OPTIONS:

(Please register before Friday, June 3.)

- **FULL PACKAGE:** 2 nights' accommodation, breakfast, 2 lunches, riverboat dinner, bus, 2 day pass to meetings and posters: \$450

or

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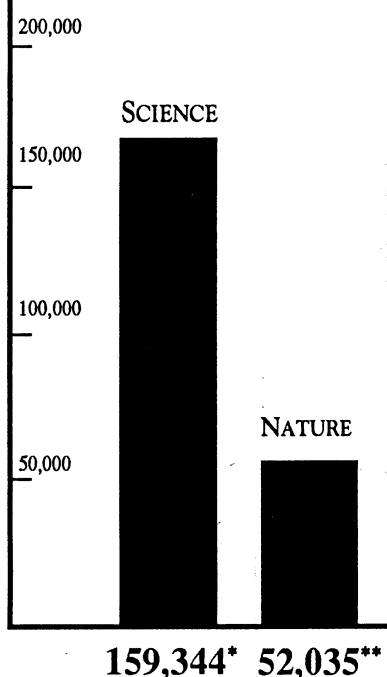
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Department of Energy Human Genome Program Announcement

Program Notice 94-12: Human Genome Program—Technological Advances

ACTION: Notice inviting grant applications

SUMMARY: The Office of Health and Environmental Research (OHER) of the Office of Energy Research (ER), U.S. Department of Energy (DOE), hereby announces its interest in receiving applications in support of the Human Genome Program. This Program is a coordinated, multidisciplinary, goal oriented, research effort aimed at improving technologies that will lead to a detailed understanding of the human genome at the molecular level. Several research goals are encompassed in this notice, with collaborative, multidisciplinary efforts specifically encouraged. Research will be supported for the development of: 1) integrated approaches to large-scale human genome sequencing that may include supportive mapping and automation; 2) cost-effective DNA sequencing systems that promise more than a 10-fold improvement in throughput; 3) software and resources for real-time analysis and annotation of data from high-speed DNA sequencing systems; 4) resources for facile entry and retrieval of data in community genome maps and DNA sequence databases, including coordinated entry or retrieval across multiple, complementary databases.

PREAPPLICATIONS: Potential applicants are strongly encouraged to submit a brief preapplication that consists of two to three pages of narrative describing the research project objectives and methods of accomplishment. These will be reviewed relative to the scope and research needs of the DOE's Human Genome Program. Preapplications referencing Program Notice 94-12 should be received by April 15, 1994, and sent to Dr. David A. Smith, Office of Health and Environmental Research, ER-72 (GTN), Washington, D.C. 20585. For express deliveries, address to D. A. Smith (telephone 301/903-6488), 19901 Germantown Road, Germantown, MD 20874. Address submissions by electronic mail to genome@er.doe.gov (in ASCII text please). Telephone and FAX numbers are required parts of the preapplication and electronic mail addresses are desirable. A response to the preapplications discussing the potential program relevance of a formal application generally will be communicated within 30 days of receipt.

FORMAL APPLICATION DATES: Formal applications submitted in response to this notice must be received by 4:30 p.m., E.D.T., July 14, 1994, to be accepted for merit review in September 1994, and to permit timely consideration for award in Fiscal Year 1995.

ADDRESS: Formal applications referencing Program Notice 94-12 should be forwarded to: U.S. Department of Energy, Office of Energy Research, Acquisition and Assistance Management Division, ER-64 (GTN), Washington, D.C. 20585, ATTN: Program Notice 94-12. The following address must be used when submitting applications by U.S. Postal Service Express Mail or any commercial mail delivery service, or when handcarried by the applicant: U.S. Department of Energy, Office of Energy Research, Acquisition and Assistance Management Division, ER-64, 19901 Germantown Road, Germantown, MD 20874.

SUPPLEMENTARY INFORMATION: It is anticipated that approximately \$5,000,000 will be available for grant awards during FY 1995, contingent upon availability of appropriated funds. Multiple year funding of grant awards is expected, and is also contingent upon availability of funds. Previous awards have ranged from \$79,000 per year up to \$1,000,000 per year with terms from one to three years. Most awards are in the \$200,000 to \$400,000 per year range for three years. Similar award sizes are anticipated for new grants. Information on the development and submission of applications, eligibility, limitations, evaluation, selection process, and other policies and procedures may be found in the Application Guide for the Office of Energy Research Financial Assistance Program and 10 CFR Part 605. The Application Guide is available from the U.S. Department of Energy, Office of Health and Environmental Research, Health Effects and Life Sciences Research Division, ER-72 (GTN), Washington, D.C. 20585. Telephone requests may be made by calling (301) 903-6488.

The Office of Energy Research, as part of its grant regulations, requires at 10 CFR 605.11(b) that a grantee funded by ER and performing research involving recombinant DNA molecules, and/or organisms and viruses containing recombinant DNA molecules shall comply with the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules" (51 FR 16958, May 7, 1986), or such later revision of those guidelines as may be published in the Federal Register.

The dissemination of materials and research data in a timely manner is essential for progress towards the goals of the DOE Human Genome Program. The OHER requires the timely sharing of resources and data. Applicants should, in their applications, discuss their plans for disseminating research data and materials that may include, where appropriate, putting cell lines, probes, sequence data, software, etc., into public repositories. Once OHER and the applicant have agreed upon a distribution plan, it will become part of the award conditions. Funds to defray the costs of disseminating materials or submitting data to repositories are allowable; however, such requests must be adequately justified. Applicants should also provide timeliness projecting progress toward achieving proposed goals.

FOR FURTHER INFORMATION CONTACT: Dr. David A. Smith, Office of Health and Environmental Research, ER-72 (GTN), Office of Energy Research, U.S. Department of Energy, Washington, D.C. 20585, (301) 903-6488.

FROM: The Federal Register, Friday, February 18, 1994, Vol. 59, No. 034, pages 30-32, 59 FR 8183 "Energy Research Financial Assistance Program Notice 94-12: Human Genome Program—Technological Advances"

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Interested individuals should submit curriculum vitae, representative reprints, three letters of reference and a one-page statement of research to: **Dr. Arthur Cho, Search Committee Chair, Department of Molecular & Medical Pharmacology, UCLA School of Medicine, 10833 Le Conte Avenue, Los Angeles, CA 90024-1735** no later than May 18, 1994.

ACADEMIC OPHTHALMOLOGIST Position: GENERAL OPHTHALMOLOGIST

The University of Nebraska Medical Center's (UNMC) Department of Ophthalmology is seeking a full-time general ophthalmologist. A strong commitment to resident, medical student teaching and research is essential. Requirements include completion of a satisfactory ophthalmic residency and American Board of Ophthalmology eligibility or certification. Expertise in the area of corneal disease and refractive surgery is preferred but not required. Must have documented prior teaching and research experience. Salary and rank commensurate with education and experience. Health Professions (tenure-leading) appointment contract with potential for renewal. Position available July 1, 1994. Send curriculum vitae to: **Michael E. Yablonski, M.D., Ph.D., Professor and Chairman, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198-5540. Telephone: (402) 559-5379, FAX: (402) 559-5514. An Equal Opportunity/Affirmative Action Employer. Women and minorities encouraged to apply.**

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The University of Louisville School of Medicine announces a newly established program of graduate studies leading to a Ph.D. in Visual Sciences. Based in the Kentucky Lions Eye Research Institute, this graduate program focuses on the anatomy, biochemistry, physiology and pharmacology of specialized tissues within the eye, and psychophysics of the visual system. Applications are being considered from individuals who wish to enter the program in August 1994. For information, contact: **Nicholas A. Delamere, Ph.D., Department of Ophthalmology and Visual Sciences, University of Louisville School of Medicine, Louisville, KY 40292. Telephone: (502) 588-5460, FAX: (502) 588-7298.**

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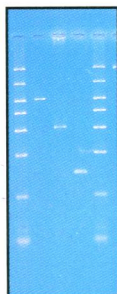
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