CARL SAGAN'S FINAL WORK A breathtaking look at our world on the edge of a new century



with an epilogue by his wife and long-time collaborator, Ann Druyan Carl Sagan's last collection

of essays explores the biggest scientific, political, and ethical issues challenging us on the eve of the next century.

"Captures Sagan's spirit at its best."

A Selection of the Book-of-the-Month Club, the History Book Club, the Science Book Club, and the Readers' Subscription Book Club

> RANDOM A HOUSE http://www.randomhouse.com/

Circle No. 39 on Readers' Service Card

AAAS SCIENCE AND TECHNOLOGY POLICY YEARBOOK Albert H. Teich,

Albert H. Teich, Stephen D. Nelson and Celia McEnaney, editors

Covering major developments during 1996, the new AAAS Yearbook is a concise yet comprehensive source of information on current policy issues affecting science and technology. Included are papers from the 1996 AAAS Science and Technology Policy Colloquium together with other key articles and speeches and excerpts from reports by the National Academy of Sciences, the Council on Competitiveness, and the National Science Board. Working scientists, engineers, government policymakers and administrators, industrial managers, scholars and students of science and technology policy, and many others will find this book an invaluable resource. Special quantity discounts are available for classroom use.

1997; 456 pages; \$24.95 (AAAS member price \$19.96) Purchase the *1995 Yearbook* for \$12.50 (half price) and the *1991-1994 Yearbooks* for only \$5.00 each. Postage/handling per order \$4.00. AAAS Distribution Center PO Box 521 Annapolis Junction, MD 20701 Order by phone (VISA/MasterCard only) call 1-800-222-7809. Fax orders to 301-206-9789.



These custom-made, imprinted cases and binders are ideal for protecting your valuable *Science* copies from damage. Each binder or case holds one volume of *Science*, or 13 weekly issues – order four binders or cases to hold a complete year of issues. Constructed from reinforced board and covered with durable, leather-like red material and stamped in gold, the cases are Vnotched for easy access; binders have a special spring mechanism to hold individual rods which easily snap in.

| Quantity | Cases | Binders |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------|
| One | \$ 8.95 | \$11.25 |
| Three | \$24.95 | \$31.85 |
| Six | \$45.95 | \$60.75 |
| 499 East E Philadelphi Enclosed i Cases: case/binder Outside US | rie Avenue a, PA 19134 s \$ Binders. 7 r for postage SA \$3.50 per only). PA resid | case/binder |
| Address | No P.O. Box Nur | mbers Please |
| City | | |
| State/Zip_ | | |
| Ex, Visa, M name, #, E CALL TOLL 1-800-825-66 | IC, DC accept xp. date. FREE 7 days, 2 | -6600 |

— SATISFACTION GUARANTEED —



Take another LOOK at The Journal of Experimental Biology

If you're involved in molecular, environmental or evolutionary physiology and you want to stay ahead of the field, it's time to take a closer look at The Journal of Experimental Biology.

No other publication offers you so much!

- New *twice monthly* publication to bring you up-to-the-minute research
- Highest quality papers covering the entire field of integrative biology, with new editors recently appointed in molecular physiology, biochemistry and neuroscience
- A commitment to broaden the scope of the journal to cross specialisation boundaries. New ideas for papers are always welcome
- A proven track record a 90-year pedigree in comparative physiology

Isn't it time you took a closer look?

Call +44 (0) 1223 426164 to find out more today, or email us on sales@thecob.demon.co.uk

The Company of Biologists Limited



Bidder Building, 140 Cowley Road Cambridge CB4 4DL Tel: +44 (0) 1223 426164 Fax: +44 (0) 1223 423353 email: sales@thecob.demon.co.uk

Special rate of \$99/£62 for new subscribers and free subscription to the BioMedNet* *BioMedNet available to individual subscribers only Circle No. 44 on Readers' Service Card



...with our palette of human PKC isoforms, assay kits, and antibodies.

PKC Isozymes

PanVera's purified, recombinant human Protein Kinase C isozymes α , β I, β II, γ , δ , ϵ , and ζ offer both high purity (>95%) and high specific activity, and demonstrate appropriate isozymespecific lipid and calcium dependence. Useful for labeling assays, inhibitor screening, elucidation of natural substrates, or as Western standards, PanVera's PKCs are available as individual isozymes or in a convenient sampler kit.

MESACUP™ Protein Kinase Assay Kit

The MESACUP non-radioactive assay for PKA and PKC activity can detect as little as 0.001 units of PKC activity. The easy-to-use kit utilizes a synthetic peptide substrate and a biotinylated monoclonal antibody which recognizes the phosphorylated form of the peptide in an enzyme-linked immunosorbant assay (ELISA) format. No filtration or spin steps are required.

Isozyme-specific antibodies

Our PKC isozyme-specific antibodies provide excellent specificity and sensitivity and are ideal for use in Western blotting.

Change the face of your PKC research. Call PanVera today for more information.



PKC α activity measured in a standard radioactive assay (PS=phosphatidyl serine).

800-791-1400



Circle No. 28 on Readers' Service Card

PanVera Corporation, 545 Science Drive, Madison, WI 53711 USA, 608-233-5050 Fax: 608-233-3007, E-mail: info@panvera.com, Homepage: http://www.panvera.com/ © 1997, PanVera Corporation In Japan contact TaKaRa Shuzo Co., Ltd, Otsu, Shiga, Japan Phone: +81 775-43-7247 Fax: +81 447-43-9254. In the UK contact Cambridge Bioscience, Cambridge, UK. Phone: +44 1223-316855 Fax: +44 1223-360732 E-mail: cbio@cix.compulink.co.uk In Switzerland contact JURO Supply AG, Lucerne, Switzerland Phone: +41 [041]410-1651 Fax: +41[041]4104564 E-mail: juro_lucerne@mail.tic.ch

PRODUCTS & MATERIALS

Thermal Cycler

The GeneAmp PCR System 9700 is a thermal cycler that features interchangeable sample blocks and an intuitive graphical user interface with comprehensive programming capability and real-time display. Designed for high-performance polymerase chain reaction, the system offers oil-free operation, a wide temperature range (4.0°C to 99.9°C), high-speed heating and cooling (3.5°C per s



for the sample block between 95° C and 55° C), accuracy (0.25°C from 35° C to 100°C), uniform heating cycles, and cycle time reproducibility. The compact instrument only requires about 1 square foot of bench space. Perkin-Elmer. For information call 800-345-5224 or circle 140 on the reader service card.

Genomic DNA Isolation Kits

The MasterPure Kit makes use of only microcentrifuge tubes and a simple protocol to isolate pure genomic DNA from human and other mammalian blood in less than 30 min. With the MasterAmp Buccal Swab Kit, hundreds of human or other mammalian genomic DNA samples can be prepared in a single day without the need for blood draws. The DNA from each kit is suitable for polymerase chain reaction use. Epicentre Technologies. For information call 800-284-8474 or circle 141 on the reader service card.

Monoclonal Antibodies

Glutamate is a major excitatory neurotransmitter in the mammalian central nervous system; a monoclonal antibody (mAb) to glutamate receptor 2 can be used in protein immunoblotting, immunocytochemistry, and immunohistochemistry. Chemicon International. For information call 800-437-7500 or circle 142 on the reader service card.

Three mAbs, FLAG M1, FLAG M2, and FLAG M5, specifically bind the eight amino acid FLAG epitope, DYKDDDDK. These antibodies differ in their binding abilities based on the location of the FLAG sequences in the fusion protein. Berkeley Antibody, BAbCO. For information call 510-412-8930 or circle 143 on the reader service card.

Rapid Nucleic Acid Recovery from Gels

The Quik-Pik electroelution capsules recover DNA, RNA, and protein from gels with as little as 90 s hands-on time. There is no need for glass milk, spin columns, binding columns, or other methods that can damage DNA. The Quik-Pik electroelution method also eliminates washing, spinning, heating, and precipitations that can harm DNA. The capsules allow the recovery of 1000 bp of DNA with recovery as high as 95%. The recovered DNA is ready for ligation, restriction enzyme digests, sequencing, amplification, random priming, or other enzymatic

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.



Circle No. 57 on Readers' Service Card

United Kingdom: 993 - 706 - 736

reactions. Stratagene. For information call 800-424-5444 or circle 144 on the reader service card.

Liquid Acrylamide Solutions

A wide range of premixed liquid acrylamide solutions enable DNA sequencing gels to be poured in minutes yet retain high levels of reproducibility. The Ultrapure RapidGel DNA sequencing solutions are suitable for both radioactive and fluorescent sequencing eletrophoresis. They are available in a range of convenient percentages in either TBE (4, 4.75, 5, 6, and 8%) or GTG (4, 6, and 8%) formulations. Amersham Life Science. For information call 847-593-6300 or circle 145 on the reader service card.

Phase Diagram Software

IceNine is software for drawing and design of phase diagrams that can save hours of drawing tedium. The drawing module supports automatic linking of invariant points, easy to manipulate Bezier curves, subscripts, Greek letters, rotated text, and automated scaling. Experimental points can be imported and displayed. The viewing module supports zooming, lever law calculations, component "flipping," and multiple temperature-composition axes. Publication quality files can be printed directly or exported. The program runs on Macintosh and PowerPC platforms, with a Windows version under development. ESM Software. For information call 513-738-4773 or circle 146 on the reader service card.

Fluorescence Detector

The RF-10 A_{XL} fluorescence detector offers a Raman signal-to-noise ratio of 300 and wavelength accuracy of ± 2.0 nm. A ratio system compensates for lamp intensity fluc-



tuation and provides superior noise characteristics and baseline stability. Other enhancements include a remote lamp on/off function to allow automated lamp shutdown and a rugged flow cell design with elevated back-pressure tolerance. Shimadzu. For information call 800-477-1227 or circle 147 on the reader service card.



Literature

Human CD Antigens Wall Chart is a poster with the most up-to-date nomenclature, including 39 new CD numbers. **R&D Sys**tems Europe. For information call +44 1235 529449 or circle 148 on the reader service card.

Biochemicals and Reagents for Life Science Research lists more than 34,000 such compounds. This edition features more than 2000 new products, including enzymes, antibodies, phosphoramidites, and ancillary reagents for commercial oligonucleotide synthesizers, embryo-tested cell culture reagents, and products for signal transduction research. Sigma Chemical. For information call 800-325-3010 or circle 149 on the reader service card.

Compendium of CD Monoclonal Antibodies is a colorful chart of the almost 200 monoclonal antibodies of the PeliCluster range. Accurate Chemical & Scientific. For information call 800-645-6264 or circle 150 on the reader service card.







DISPLAY CLASSIFIED ADVERTISEMENTS

Call for rate and deadline information on display classified advertisements. Email: science_displayads@aaas.org

> Jill Steinberg Recruitment Display Advertising Telephone: (202) 326-6543 FAX: (202) 289-6742 Email: science_displayads@aaas.org

Gabrielle Boguslawski Recruitment Advertising Sales Manager Telephone: (718) 491-1607 FAX: (202) 289-6742

Debbie Cummings European Recruitment Advertising Telephone: +44 (0) 1223 302067 FAX: +44 (0) 1223 576208

For **GLOBAL CAREER OPPORTUNITIES** display advertisements, see pages 1735, 1741, 1746, 1750 and 1751.

LINE CLASSIFIED ADVERTISEMENTS

How to Submit a Line Classified Ad: Submit double-spaced typewritten copy. Do not include any abbreviations. SCIENCE will edit and typeset ads according to SCIENCE guidelines. Include billing information and desired publication date. Available categories: Positions Open, Meetings, Announcements, Courses and Training, Services. SCIENCE cannot provide proofs of typeset line ads. Line advertisements are not commissionable.

Estimates: SCIENCE will provide a cost estimate for line ads. This is an approximate cost only. Allow for variation between estimated lines and actual typeset lines and resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.

For line advertising deadlines, call Eric Banks, Telephone: (202) 326-6555; or Troy Benitez, Telephone: (202 326-6740; FAX: (202) 289-6742. Email: science_classifieds@aaas.org

Credit Cards: SCIENCE accepts American Express, MasterCard and VISA. Discount does not apply to credit cards.

Cancellations: Deadline for cancellation is Tuesday,10 days prior to issue date. Discounts: A 3% cash discount is granted to all prepaid ads.

Ads from Outside the U.S.: A discount of \$30 will be offered to advertisers making payment in U.S. dollars by checks drawn on U.S. banks. Contact Debbie Cummings. Telephone: +44(0) 1223 302067; FAX: +44(0) 1223 576208.

SCIENCE Professional Network: Unless otherwise instructed, every classified advertisement submitted for publication in SCIENCE is automatically posted on SCIENCE's on-line classified advertising service, SCIENCE Professional Network, at no additional charge.

www.sciencemag.org

Mail, FAX or Email materials to: SCIENCE Classified Advertising 1200 New York Avenue, N.W., Room 911 Washington, DC 20005 FAX: 202-289-6742 Email: science_classifieds@aaas.org (please include your telephone number in Email)

SCIENCE reserves the right, at its discretion, to edit or decline to publish advertisements submitted to it.

POSITIONS OPEN



RANK OPEN

DEPARTMENT OF PHARMACOLOGY The Department of Pharmacology is seeking applicants

for tenure-track faculty positions. Wayne State University offers laboratory space, start-up funds, and a record of highly successful extramural research funding by seniorlevel investigators. Affiliations with the NIEHS Toxicology Center and joint appointments with Karmanos Cancer Institute and Department of Biology are available; preference will be given to individuals with experience in apoptosis and cell death, cell signaling, pharmacogenetics, tumor/stromal interactions, vesicular trafficking, and related fields. Information on the Department of Pharmacology may be found on our website: http://www. phypc.med.wayne.edu/pharm/home.htm.

Interested persons should send a curriculum vitae, three letters of reference, and a statement of research interests to:

Dr. David Kessel, Chairman Faculty Search Committee Department of Pharmacology Wayne State University 540 East Canfield Detroit, MI 48201

Wayne State University is an Equal Employment Opportunity/ Affirmative Action Employer. Wayne State University—People working together to provide quality service.

DIRECTOR OF CONSERVATION SCIENCE

The Nature Conservancy, an international conservation organization dedicated to the protection of biological diversity, is seeking a highly motivated individual for the position of Director of Conservation Science. The successful candidate will develop, implement, and coordinate a comprehensive science program in Illinois. This position will entail comprehensive strategic oversight to various site based projects both aquatic and terrestrial in opportunity to translate state-of-the-art scientific theory, methods, and practice into applied action and decisionmaking for the protection of biological diversity. Some duties at the national level will be expected. Requirements: 1) graduate degree in ecology, conservation biol-ogy, or related field and five years of successful work experience; 2) strong field ecology skills and monitoring background; 3) ability to develop programs, design and implement strategies, and work as a team member; 4) excellent communication and writing skills with public speaking experience. We offer a competitive compensa-tion package. Send résumé and cover letter to: **Conser**vation Programs Administrator, The Nature Conservancy of Illinois, 416 Main Street, Suite 1112, Peoria, IL 61602. The Nature Conservancy is an Equal Opportunity Employer

DIRECTOR OF RESEARCH AVIAN TRANSGENESIS

AviGenics is a development-stage company pursuing commercial opportunities in transgenic poultry. In particular, AVI is modifying the chicken genome to produce pharmaceutically important proteins and intermediates in egg whites from transgenic chickens. The Director will be responsible for planning and man-

The Director will be responsible for planning and managing the experimental activities of the research group in addition to conducting his/her own laboratory program. Initially, a new laboratory in Athens, Georgia will need to be set up, staffed, and put into operation. The Director's position requires a Ph.D. in molecular biology or related field and five to ten years of relevant post-graduate laboratory and managerial experience, preferably in a pharmaceutical or biotechnology environment. Experience with transgenic animals is required.

The successful individual must be capable of directing an intensive technology development program into avian transgenesis and be willing to contribute to the varied tasks contributing to the growth of an emerging commercial enterprise. Incentive stock options are available in addition to a competitive salary. Please send résumé to:

AviGenics, Inc. 845 Oak Grove Avenue, #220 Menlo Park, CA 94025 POSITIONS OPEN

FACULTY POSITION

The Department of Virology and Immunology at the Southwest Foundation for Biomedical Research invites applications for faculty-level positions at the ASSIS-TANT, ASSOCIATE or SCIENTIST level. The Department has nine faculty with research programs focusing on hepatitis viruses, human and simian immunodeficiency viruses, and herpes viruses. Major strengths of the Foundation are the extensive nonhuman primate resources, which include baboons, chimpanzees, and macaques. There is a strong postdoctoral training program and a close association with the University of Texas Health Science Center at San Antonio, including a role in graduate education. All candidates must have as a minimum a doctoral degree in the biological sciences or an M.D. degree, and have completed at least two years of relevant postdoctoral research. Three or more years of relevant postdoctoral research are preferred. Candidates for Assistant Scientist must have the potential for building and directing an independent research program in animal virology. Candidates for Associate and Scientist must have demonstrated ability to direct an independent research program in animal virology and have been shown to be competitive for extramural support. All areas of virology will be con-sidered but preference will be given to viral immunology. Please mail curriculum vitae, a description of research interests, and the names, addresses, and telephone numbers of three references to: Director of Human Resources (723), Southwest Foundation for Biomedical Research, P.O. Box 760549, San Antonio, TX 78245-0549. Equal Opportunity Employer.

MEDICAL DIRECTOR—INSTITUTE OF MEDICAL GENETICS

Evanston Hospital Corporation, affiliate of Northwest ern University Medical School, is seeking a qualified M.D. or M.D./Ph.D. candidate for the position of Medical Director for our Institute of Medical Genetics. Candidate will develop and implement a multidisciplinary clinical/ research team in order to establish a state-of-the-art program. Extensive collaborative opportunities available with the Northwestern University Basic Science Department (Evanston Campus) and Northwestern University Medical School (Downtown Chicago Campus). To illustrate the strong institutional commitment toward this initiative, the candidate will be offered a highly competitive salary and start-up financial package with resources to recruit additional faculty. Ideal candidate will have a strong research background in molecular genetics, clinical background in medical genetics (preferably in oncology) with administrative experience (preferred) and excellent leadership skills. Academic appointment to be commensurate with candidate's credentials. Send curriculum vitae to: Janardan Khandekar, M.D., Chairman, Medical Genetics Search Committee, 2650 Ridge Avenue, Evanston, IL 60201. FAX: 847-570-2940. Evanston Hospital Ćorporation is located in a beautiful lakefront suburban community, eight miles from downtown Chi-cago. Evanston Hospital Corporation has been rated as one of the Top 15 academic teaching hospitals in the country for the last three years.

BEN GURION UNIVERSITY OF THE NEGEV FACULTY OF HEALTH SCIENCES DEPARTMENT OF CLINICAL PHARMACOLOGY

The Department of Clinical Pharmacology invites applications for tenure-track faculty position in pharmacology. The department, covering preclinical and clinical pharmacology, is searching for a young pharmacologist, after at least two years of postdoctoral research, trained in and mastering modern molecular biology methods. The successful candidate will be expected to develop an active independent research program and participate in undergraduate and graduate teaching. Applicants should submit a curriculum vitae, reprints of three key publications, a brief statement of research goals, and names and addresses of three references to: Professor Zvi Ben-Zvi, Department of Clinical Pharmacology, Ben Gurion University of the Negev, P.O. Box 653, Beer Sheva 84105, Israel. Email: zbenzvi@bgumail.bgu.ac.il. Applications will be accepted until August 15, 1997.

Director of Public Affairs

Los Alamos National Laboratory University of California Los Alamos, New Mexico

The Director of the Los Alamos National Laboratory invites nominations and applications for the position of Director of Public Affairs.

The Director of the Los Alamos National Laboratory (LANL) was established in 1943 as Project Y of the Manhattan Engineer District with a mission to develop the world's first atomic bomb. Today, LANL is a multidisciplinary, multiprogram laboratory of the Department of Energy (DOE). The University of California has managed the Laboratory for the DOE and its predecessor agencies since its inception in 1943.

The Laboratory's original mission to design, develop, and test nuclear weapons has broadened and evolved as technologies, U.S. priorities, and the world community have changed. Today, the core mission of the Laboratory is reducing the global nuclear danger. The principal components of this mission are the stewardship and support of the nation's nuclear stockpile; management, supply, and disposition of critical nuclear weapons materials; non- and counter-proliferation technologies and activities; and cleanup of the legacy of fity years of nuclear weapons development and production. The core mission is supported by the technical competencies developed for national security and other programs. These competencies in turn allow the Laboratory to perform large-scale, interdisciplinary research and development that contributes to conventional defense and civilian national needs. Partnerships with industry and universities serve to increase the effectiveness of the Laboratory's facilities and staff and contribute to the nation's economic competitiveness. The Laboratory maintains an intellectual environment intended to foster scientific creativity in support of the national interest. In its operations, the Laboratory is committed to ensuring that all activities are performed in a manner that protects employees, the public, and the environment.

The Laboratory has an operating budget of about \$1.1B and a staff of approximately 7,000 University of California employees and 3,000 contractor employees. The Laboratory is operated by the University through a performance based management contract. The LANL site consists of approximately 43 square miles including 50 designated technical areas and nearly 1,000 permanent buildings of about 5,000,000 square feet. LANL is situated in the town of Los Alamos, approximately 35 miles northwest of Santa Fe.

In this position, you will report to the Laboratory Director. Assist the Director's Office and Senior Management in formulating policies and plans and in executing functions involving internal and external communications in support of the Laboratory mission. Formulate policies and plans that will effectively and creatively communicate the Laboratory's scientific and technical achievements, capabilities and vision to all appropriate local, state, national and international audiences. Establish communications and publications policies that advance Laboratory research and public service objectives. Direct activities of the communications staff. Direct preparation of educational and informational materials and publications on Laboratory activities and programs. Provide information, analysis and advice to senior and other management on developments, trends and issues in areas of responsibility.

Position requires successful senior-level line management experience required in public affairs involving organizational communications in government, university, nonprofit or corporate environment. Successful experience required in media relations, both local and national, publications and/or planning, managing and implementing public affairs programs. Demonstrated experience required in development and administration of programs designed to improve understanding of institution's objectives and achievements. Must have practical community relations experience and knowledge of opinion leader theory. Demonstrated excellent oral and written communication skills required. Ability to direct, manage and recruit a diverse workforce. Excellent interpersonal skills required with a proven ability to communicate effectively at all levels. Knowledge of Department of Energy, Department of Defense and major academic institutions desirable. A broad understanding of national security policy, scientific research or experience with a scientific institution is desired.

A Master's degree in public relations, journalism, communications, business, social sciences or equivalent combination of education and experience is required. Job #972527-PA97067.

Los Alamos provides competitive salaries and comprehensive benefits plans. For immediate consideration, please send your resume in confidence to the Human Resources Division, Job #972527-PA97067, Mail Stop P206, Los Alamos National Laboratory, Los Alamos, NM 87545. Note appropriate Job # must be inserted. Explore our web page to learn more about LANL: http://www.hr.lanl.gov

. 77

Affirmative Action/Equal Opportunity Employer. Must be able to obtain a Department of Energy Security Clearance.



MARINE / ESTUARINE ECOLOGIST

The Environmental Sciences program of the Division of Natural Sciences invites applications for a tenure track Assistant/Associate Professorship to start August 25, 1997. Applicants must hold a Ph.D. and have relevant teaching and research experience. Expertise in research design, statistics, and computer proficiency are strongly desired. Probable teaching responsibilities are General Ecology with lab, Marine Ecology with lab, a course for non-majors and supervision of senior projects.

Purchase is a small, public Liberal Arts college located on a 500 acre campus in suburban Westchester County, a short distance from Long Island Sound and the Hudson River. The hallmark of the college is a strong commitment to undergraduate research and mentoring. The successful candidate will be expected to establish a field and lab research program in an applied aspect of marine/estuarine science which will involve undergraduates.

To apply, send curriculum vitae, graduate transcripts, summary of research plans, description of teaching experience and philosophy, and names/addresses of three references to:

Environmental Sciences Search Committee Division of Natural Sciences Purchase College / SUNY

735 Anderson Hill Rd. Purchase, New York 10577-1400

Review of applications will begin immediately and continue until the position is filled. Purchase College has excellent research facilities and is an Affirmative Action/Equal Opportunity Employer.

University of Minnesota Vice President for Research and Dean of the Graduate School

The University of Minnesota invites applications and nominations for the position of Vice President for Research and Dean of the Graduate School. The Vice President and Dean reports directly to the President and is the CEO responsible for providing central leadership for the University's research and graduate programs and representing the University's interests in research and graduate education on its campuses and to external constituencies. For a complete job description, please contact Susan Jackson at the address noted below.

The successful candidate must have:

- an earned doctorate or requisite terminal degree in the applicant's area of study;
- a demonstrated record of effective, innovative, and collaborative leadership in higher education in a highly decentralized environment;
- a record of teaching and scholarship/artistic activity commensurate with appointment as a tenured full professor in a dept. at the University;
- a demonstrated ability to work effectively with diverse constituencies;
- demonstrated experience in the procurement and management of sponsored research programs;
- an ability to articulate a vision for research and graduate education;
- significant academic policy-setting and decision-making experience in research and graduate education;
- an understanding of modern management information systems;
- a demonstrated record of adopting and practicing principles of affirmative action and equal opportunity.

Applications will be reviewed beginning June 27, 1997, but will be accepted until the position is filled. Applications should include a letter expressing interest, a vita, and the address and telephone numbers of at least three references. References will not be contacted without the approval of the candidate. Send to: Search Committee; ATTN: Susan Jackson, Box 23 Mayo; University of Minnesota; Minneapolis, MN 55455; Fax: 612-625-5161; email: sjackson@maroon.tc.umn.edu. To request disability accommodations, please contact Ms. Jackson.

The University of Minnesota is an equal opportunity educator and employer.

OUR FORMULA FOR SUCCESS:

Science 🔁 Compassion

Fulfillment

Drug Disposition Scientist, Ph.D.

Applicants must have a Ph.D. degree in Biochemistry, Analytical Chemistry, Medicinal Chemistry, Bioanalytical Chemistry, or a related field; and experience in quantitative analytical methods to study absorption, distribution, metabolism, and excretion of small molecules and/or peptides in animal models and humans. A strong background in pharmacologic and pharmacokinetic mechanisms as they relate to drug disposition is desirable.

Drug Disposition Scientist, BS/MS

Successful candidates are needed to work in collaboration with senior investigators to study chemical transformations in biological systems. Ideal candidates will have a BS or MS degree in Analytical Chemistry, Biochemistry, or in a related discipline; experience in developing and implementing quantitative bioanalytical methods and excellent organizational and communication skills. Experience with computer data systems and radiochemicals is desirable.

LC/MS/MS: Bioanalytical Scientist, Ph.D.

Candidates should have a Ph.D. and at least 3 years experience with bioanalytical assay development. BS and/or MS level candidates having either contract laboratory experience or extensive experience with bioanalytical assay development are encouraged to respond. Direct experience with quadrupole-based LC/MS/MS instrumentation is essential along with a practical understanding of organic chemistry and separation science. Primary responsibilities will be to develop, validate and implement bioanalytical methods for drug candidates and their metabolites from biological fluids. Candidates should possess strong interpersonal and communication skills and be able to interface effectively with scientists from related disciplines.

LC/MS/MS: Bioanalytical Mass Spectroscopist, BS/MS

Candidates should have a BS or MS degree in Chemistry and at least 1 year experience with quadrupole-based LC/MS instrumentation. A fundamental understanding of organic chemistry along with experience in assay development are desired. Candidates should possess strong interpersonal and communication skills and be able to interface effectively with scientists in Drug Disposition. Primary responsibilities will include quantitative analysis of drug candidates in biological matrices from both in vitro and in vivo sources as well as qualitative studies for drug biotransformation.

Eli Lilly and Company offers a competitive compensation and benefits package and a highly professional environment. For prompt consideration, please forward your resume to:

Eli Lilly and Company, Scientific Recruitment, Dept., ADSCMSI06, Lilly Corporate Center, Indianapolis, IN 46285. We are an Equal Opportunity Employer committed to diversity in the workplace.

For other job opportunities, visit our Job Bank at http://www.lilly.com M ost people work to live. Others work so people live longer. At Lilly, our proven leadership in the worldwide battle against human disease has allowed us to define success on our own terms. And while it's true we market products in 156 countries, employ nearly 30,000 people internationally and are a \$7+ billion leader in the pharmaceutical industry, we ultimately measure our accomplishments by their effect on the health and happiness of the international community we serve.

At Lilly, our delivery of revolutionary pharmaceutical-based health care solutions is inspired and guided by the people we touch, be it customers, communities, employees, shareholders, or partners. Our commitment to excellence and professional integrity reinforces our passionate pursuit and discovery of mankind's most

advanced treatments, cures and methods of disease prevention and management. The result is often the reduced cost of disease, thereby creating significant value for patients, health care providers and payers.

Join a company where excellence is reflected in our continuous search for new ways to improve the performance or our business in order to become the best at what we deliver.

To further build our research capabilities, we are seeking selfmotivated, innovative BS, MS, and Ph.D. level Scientists to plan, organize, and manage programs in the area of pre-clinical and clinical drug metabolism.



KNOWLEDGE IS POWERFUL MEDICINE

The Department of Ophthalmology and Associated Faculty at Harvard University announce a new NIH-supported postdoctoral training program in molecular bases of vision and eye diseases.

The program is designed to provide expertise in the most current molecular research techniques and a knowledge of the current problems in ophthalmology. The training faculty and their research interests are:

M. Applebury: Photoreceptor signaling, development, degeneration **V. Arshavsky**: Phototransduction and adaptation in rods and cones

- E. Berson: Étiologies of degenerative retinal diseases
- C. Cepko: Development of vertebrate retina
- C. Cintron: Molecular morphogenesis of corneal tissues
- J. Dowling: Retinal genetics and development
- T. Dryja: Molecular genetics of hereditary diseases of the retina
- I. Gipson: Cell and molecular biology of corneal epithelium
- D. Goodenough: Function of cell junctions in the anterior eye
- E. Hay: Epithelial-mesenchymal transformation in the embryo
- A. Kazlauskas: Receptor tyrosine kinases in eye diseases
- B. Ksander: Immunotherapeutic treatment of ocular tumors
- T. Li: Gene therapy of retinal degenerations
- M. Lorenzi: Pathogenesis of diabetic retinopathy

- C. Makino: Electrophysiology of photoreceptor cells
- J. Malicki: Neuronal pattern and identity in zebrafish retina
- R. Masland: Interactions within local neural circuits of the retina
- S. Ono: Molecular basis of immunologic diseases of the eye
- **R. Rando**: Membrane biochemistry related to visual system
- E. Raviola: Neuronal processing in the retina
- D. Roof: Development and maintenance of photoreceptor structure
- T. Shinohara: Etiology of age-related cataract
- J.W. Streilein: Ocular immunology and transplantation
- J. Stein-Streilein: Cells that regulate ocular immune responses
- D. Sullivan: Regulation of immune system of the eye
- A. Taylor: Mechanism of immune privilege within the eye
- J. Zieske: Role of corneal epithelial stem cells in healing

Six positions will become available in September 1997 with additional positions opening in 1998. Applicants should submit curriculum vitae, graduate school records, names for two letters of recommendation, brief statement of research interests, and selection of one or more preceptors from the faculty listed above to Lois Toutwid, Department of Ophthalmology, Harvard Medical School/ MEEI, 243 Charles Street, Boston, MA 02114. Applicants must have a Ph.D. or M.D. and be U.S. citizens or permanent residents. Participation of minority candidates is strongly encouraged.

SENIOR RESEARCH **GENETIC TOXICOLOGIST**

The Safety Assessment Department of Merck Research Laboratories, a leader in pharmaceutical and biological research, has a career opportunity for a Ph.D. level scientist (or equivalent) with a background in Toxicology or a related discipline and 2 or more years of postdoctoral experience in either academia or industry. Prior research experience in one or more of the following areas is preferred: genetic toxicology, chemical carcinogenesis, molecular carcinogenesis and molecular biology; strong background in chemistry is desired. Prior experience conducting DNA adduct studies is also preferred.

The successful candidate will conduct and supervise in vitro and in vivo studies to elucidate the mechanisms of action and structure-activity relationships for compounds which show activity in in vitro and in vivo genetic toxicology assays. The candidate will also develop and validate new methodologies and test systems, as necessary, to characterize the potential of chemicals to bind and/or modify the structure or function of DNA; and provide biochemical and molecular biological support for studies to evaluate new in vivo carcinogenicity test systems (neonatal mice, transgenic mice) or modify existing test systems (e.g. dietary optimization). The candidate will be expected to participate in basic research.

Excellent salary and benefit programs accompany this position at our modern research facilities located 25 miles northwest of Philadelphia. Please forward resume with cover letter and publication summary to: Ad #D-104, MRL Human Resources WP42-2, Merck Research Laboratories, P. O. Box 4, West Point, PA 19486. Only candidates selected for interviews will receive a response. EOE, M/F/D/V. To learn more about Merck, we invite you to visit our website @ www.merck.com.



Assistant/Associate Professor of Soybean Breeding and Genetics

Soybean Breeding and Genetics position with emphasis on application of biotechnology and use of exotic germplasm. This is a 9-month tenure-track position with opportunity for summer appointment. Responsibilities will be allocated as 75% research and 25% teaching in the Department of Crop Sciences. The successful applicant is expected to develop a nationally recognized, extramurally-funded research program in soybean breeding and genetics which (i) advances the use of tools of biotechnology to improve the efficiency of soybean breeding, (ii) in collaboration with USDA-ARS evaluates germplasm, develops methods for its use, and produces enhanced germplasm for use by breeders, (iii) identifies quality factors which add value to soybean oil, meal, or seed and incorporates them into adapted germplasm, (iv) identifies and incorporates into adapted germplasm genes for disease and insect resistance, and (v) utilizes (i) through (iv) to develop and release improved varieties. The incumbent will teach at least one course per academic year. A Ph.D. in plant breeding and genetics or a closely related discipline is required. A strong background in modern plant breeding and genetics, including application of modern molecular genetic methods is essential. Post-doctoral experience, either in a university or in private industry, is desirable. A strong background in quantitative genetics is very desirable. Candidate must possess excellent interpersonal and communication skills; demonstrated ability to design, conduct, and report independent research; and a clear ability and desire to excel in classroom teaching and in advising graduate students. Salary commensurate with training and experience. Starting date is January 1, 1998 or when a suitable candidate is available. For full consideration, applications will be accepted until August 15, 1997 or until a suitable candidate is identified. Interested persons should assemble an application packet consisting of an introductory letter, a Curriculum Vitae, and a statement of research goals and teaching interests. The packet should be sent to: Professor G.H. Heichel, Head, Department of Crop Sciences, University of Illinois at Urbana-Champaign, 1102 South Goodwin Avenue, Urbana, Illinois 61801. Telephone: (217)333-9480. Applicants must also arrange to have a full set of certified university transcripts and three letters of reference sent to the same address, all to arrive on or before the closing date. For additional information contact: Dr. John W. Dudley, Department of Crop Sciences, University of Illinois at Urbana-Champaign, AW101 Turner Hall, 1102 South Goodwin Avenue, Urbana, Illinois 61801. Telephone: (217)333-9480; email: jdudley@uiuc.edu. The University of Illinois is an Affirmative Action/Equal Opportunity Employer. Please cite announcement number 05/97A-5591 when applying.

Drug Research with a World Leader

SmithKline Beecham remains at the forefront of drug discovery with an impressive £2 million a day investment in research and development and, as part of our continued commitment to discovery technologies, we have concentrated our UK R&D at a new state-of-the-art facility in Harlow. We are currently looking for enthusiastic, experienced individuals with excellent teamworking and organisational skills to join our Department of Computational and Structural Sciences, part of Medicinal Chemistry.

Biomolecular NMR

You will work in our NMR team configuring new Varian UnityPlus 600 and Bruker DRX 400 spectrometers, focusing on biostructural topics to support the discovery process. With a PhD in Biochemistry, Chemistry or Physics, you will be experienced in modern NMR spectroscopy and the technical aspects of biostructural NMR (including pulse programming and experiment implementation for both protein and oligonucleotide studies). Data processing, analysis and structure generation skills would be an advantage. This is a one year postdoctoral appointment with the possibility for renewal. **Ref: CAS04**.

Computational Chemist

Using state-of-the-art UNIX systems to study macromolecules and their ligands, you will work closely with medicinal chemists, biologists and molecular biologists in devising and applying computational methods to drug discovery. With a PhD and postdoctoral experience, ideally you will be familiar with protein modelling, particularly relating to structural determinations, bioinformatics applications or membrane environments and have some previous industrial experience. **Ref: CAS05.**

Novel Technologies Group (two positions)

With a PhD and a broad background in Biochemistry, Biology, Chemistry or Physics, you will join a team committed to developing new techniques and instrumentation to meet our ambitious targets for drug discovery. Your experience in one or more of the following areas: artificial membrane systems, biomolecular separations, fluorescence measurement, optics, Raman spectroscopy, polymer and surface science, would complement current efforts and interests. Candidates with postdoctoral experience would be preferred. **Ref: CAS06**.

RNA Preparation

Our Biopolymer Synthesis Group is part of a multidepartmental effort investigating RNA-based systems as targets for therapeutic intervention. We are seeking additional expertise at the MSc or PhD-level in the preparation and purification of RNA by chemical and transcriptional methods. Experience in handling RNA is essential and, in addition, knowledge of its study by biophysical methods or chemical footprinting techniques would be a distinct advantage. **Ref: CAS07.**

X-Ray Crystallography

With a PhD in Biochemistry, Chemistry or a related field, and preferably postdoctoral experience, you will have a background in the crystallisation and structure determination of nucleic acids. As part of our growing structural group, you will work closely with other crystallographers to establish a new laboratory facility. **Ref: CAS08.**

These positions all attract an excellent benefits package which includes bonus, relocation where appropriate, pension, and medical plans, share-matching scheme, profit-related pay, flexible working hours, subsidised restaurant and superb sports and social facilities.

Please send your full career details, quoting the appropriate reference on both the letter and envelope, to the UK Recruitment Manager, SmithKline Beecham Pharmaceuticals, PO Box 2489, London W1A 2YL. Closing date for applications: 3rd July 1997. For more information on SmithKline Beecham, visit our web site at http://www.sb.com

It is part of our fundamental philosophy at SmithKline Beecham that we recruit, train, develop, reward and promote persons in all job areas solely on the basis of qualifications, skills, abilities and aptitudes. Decisions based on race, colour, age, religion, sex, sexual orientation, disability, ethnicity or national origin are unacceptable to the Company.



SB SmithKline Beecham Pharmaceuticals Research & Development

New Frontiers for Healthcare

PROTEIN BIOCHEMISTS/ PROTEIN APPLICATIONS ENGINEER

Battelle, a world leader in the development, application, and management of evolving or state-of-the-art technologies, is seeking experienced Protein Biochemists to join a dynamic team in its Biotechnology Network group. These positions are being offered for 1-3 years, contingent upon continued funding. These positions require excellent verbal and written communication skills, the ability to work as part of a team and work on multiple tasks.

PROTEIN BIOCHEMISTS – Requires a Ph.D. in Chemical Engineering, Biochemical Engineering, Biochemistry, Microbiology, Molecular Biology or a closely related field, and demonstrated research expertise in protein isolation and engineering, such as directed evolution, over-expression, and novel protein purification. Experience in fermentation optimization and biocatalysis modeling desired. A strong background in protein biochemistry should support the experience. The work will be **performed primarily at Battelle Northwest Laboratories in Richland, WA** with some work being performed at Battelle Columbus Laboratories complex.

PROTEIN APPLICATIONS ENGINEER – Requires a Ph.D. in Chemical Engineering, Biochemical Engineering, Biochemistry, or a closely related field, and demonstrated research in applied enzymology or protein engineering for process or product design. Experience in protein process modeling, fermentation optimization, protein purification, immobilization and organic-based biocatalysis is highly desired. The work will be performed primarily at Battelle Columbus Laboratories with some work being performed at Battelle Northwest Laboratories in Richland, WA.

Battelle offers a comprehensive package of compensation and benefits, as well as opportunities for professional challenge and development. Submit a resume and cover letter to: **Battelle, Dept. N129, 505 King Avenue, Columbus, OH 43201-2693.** Battelle is an Affirmative Action/Equal Opportunity Employer M/F/D/V.





SENIOR MEMBER OF TECHNICAL STAFF BIOANALYTICAL TECHNOLOGIES

Sandia National Laboratories, the largest U.S. Department of Energy multiprogram laboratory, is seeking to hire staff scientists and engineers to join in a major laboratory research program targeted at the development of biosensors and bioanalytical instrumentation. This program is focused on the integration of advances in optoelectronic microfabrication, microfluidics, microseparations, and molecular recognition to create new chemical and biochemical analysis and detection technologies. The cornerstone of this effort is the Chemical and Radiation Detection Laboratory at our Livermore, California site. This facility houses 15 state-of-the-art laboratories bringing together a multidisciplinary team of researchers to provide innovative sensing solutions to vital environmental, public safety, and national security needs.

We are looking for creative and motivated scientists and engineers with excellent academic and research qualifications who will thrive in this multidisciplinary environment. The selected individuals will be responsible for conducting independent research as well as overseeing the technical activities of a team of postdoctoral researchers and laboratory technicians. They will also participate with management and other staff to develop R&D proposals for external sponsorship.

Applicants must have a Ph.D. in biochemistry, biophysics, chemistry, chemical engineering, biomedical engineering, or related fields. Experience in one or more of the following areas is highly desirable: capillary or microchannel separations of biomolecules (electrophoresis, capillary HPLC, electrokinetic chromatography), microfabricated biosensors, combinatorial chemistry, and development of novel bioanalytical methods or biosensor technologies. Successful candidates will have an outstanding record of peer-reviewed publications.

Interview and relocation expenses are paid by Sandia.

Candidates should send a resume, with names of references, publication list, statement of research expertise and interests, and copies of transcripts to:

Sandia National Laboratories c/o Anna Isham, MS9111 HR Dept-CA0030 P.O. Box 969 Livermore, CA 94551-0969

U.S. citizenship normally required. Sandia National Laboratories is an Equal Opportunity Employer/Affirmative Action Employer.

Functional Genomics Opportunities

The Hoechst-ARIAD Genomics Center, a joint venture between Hoechst Marion Roussel and ARIAD Pharmaceuticals located at ARIAD's corporate beadquarters in Cambridge, MA, employs advanced technologies to analyze gene function with the goal of identifying novel drug targets and therapeutic proteins. The Center combines the resources of one of the largest global pharmaceutical companies with the entrepreneurial environment of a leading discovery research organization to create a preeminent position in the field of functional genomics. ARIAD is a subscriber to the Incyte LifeSeq[™] database and bas access to new developments of the European Bioinformatics Initiative. ARIAD is seeking bigbly motivated candidates interested in contributing to the dynamic and multidisciplinary research efforts underway at the Genomics Center.

Director, Bioinformatics

Lead a protein group responsible for the application of computer technology to genomic analysis and research. Ph.D. in relevant biological or computer science field; experience in molecular biology or related research. Senior level position. Job Code: DB

Head, Automated DNA Sequencing

Lead a group responsible for DNA sequencing/oligonucleotide synthesis. At least 2 years' experience in automated sequencing, familiarity with state-of-theart sequencing technologies and ability to establish a new facility. **Job Code: ADS**

Robotics/ Bioengineering Specialists

Adapt cell-based assays and recombinant DNA technologies for highthroughput analysis. Develop/modify technologies for high-throughput analysis of RNA expression. Experience in development of high-throughput, automated technologies in molecular and cellular biology. Job Code: RBS

Scientific Program Manager

Establish and administer scientific program management function. Coordinate interaction among joint venture partners, external collaborators, Scientific Advisory Board, internal project teams and administrative and technical support groups. Experience in a biomedical research environment, strong written and communication skills, ability to solve problems creatively and independently and an advanced degree. **Job Code: SPM** Candidates for the following scientific positions should have a Ph.D. in related field with at least 3-4 years of postdoctoral experience.

Molecular Biologists

Candidates with expertise in construction of normalized and/or subtracted cDNA libraries; DNA delivery technologies (viral and nonviral vectors, DNA transfection); gene cloning using protein interaction traps; approaches for analysis of differential gene expression; transgenic and knock-out mouse models. Job Code: MB

Cell Biologists

Candidates with expertise in generation of cell-based disease models; development of genetic screens using cDNA libraries; differentiation of embryonic stem cells in culture. **Job Code: CB**

Computational Biologists

Candidates with expertise in design and implementation of novel algorithms for DNA, genomic and protein analysis; linkage analysis and differential gene expression; statistical genetics; and pattern discrimination from complex biological data. **Job Code: CPTB**

Candidates for the following positions should have experience in bioinformatics and computer technology, preferably in a research environment.

Bioinformatics System Administrators

Candidates with experience in the implementation of distributed UNIXbased servers; implementation of complex network security systems. Job Code: BSA

Bioinformatics Database Administrators

Candidates with experience in the design, development and maintenance of relational and object database systems for storage, retrieval and mining of genomic and protein data; laboratory information management systems; linkage to multiple data formats; CORBA development and implementation skills. **Job Code: BDA**

Bioinformatics Database Engineers and Programmers

Development of computational sequence analysis methods for database searching, protein structure/function prediction and pattern discrimination from gene sequences. **Job Code: BDEP**

ARIAD offers a highly competitive salary and benefits package, including incentive stock participation. Interested individuals should send a curriculum vitae, referencing the appropriate job code to: **ARIAD Pharmaceuticals**, **Inc.**, **Job Code____**, **26 Landsdowne Street**, **Cambridge**, **MA 02139**. ARIAD is an equal opportunity employer.

ARIAD

OAK RIDGE NATIONAL LABORATORY FUNCTIONAL GENOMICS PROGRAM DIRECTOR AND STAFF POSITIONS

The Oak Ridge National Laboratory (ORNL) is a Department of Energy multiprogram laboratory managed by Lockheed Martin Energy Research Corporation. Scientists and Engineers at ORNL conduct a wide range of basic and applied research and development to advance the nation's scientific knowledge. ORNL is committed to excellence in research with over 50 years of mammalian genetics research centered on the mouse as a model of human disease. Current interdisciplinary research in functional genomics includes mutagenesis and screening, bioinformatics, sequencing and genotyping, flow-through genosensor analysis, microchip technology, and mass spectrometry.

Positions are available to lead ORNL's Functional Genomics Program and to participate in research dedicated to studying how genes function within the body. The Director will advance ORNL's core functional genomics program dedicated to the large-scale generation, phenotypic characterization, molecular analysis, and distribution of new mutations in the mouse. The program will build on ORNL's expertise in mouse mutagenesis and will integrate other scientific and technological capabilities.

Successful candidates must have a PhD in genetics, molecular biology, toxicology or related field. The Program Director should have at least 5 years of demonstrated leadership experience in developing successful scientific programs. Proven experience building partnerships with academia, federal agencies, and private industry desired. The staff positions require relevant postdoctoral experience. Excellent communication skills and the desire to work in a team environment on challenging problems are essential.

Qualified applicants are invited to send a current resume to: Reinhold Mann, Director, Life Sciences Division, Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, TN 37831-6124 or you may e-mail your resume to: mnn@ornl.gov

For more information about ORNL and the Functional Genomics Program, please visit our web sites at: http://www.ornl.gov or http://avalon.epm.ornl.gov/fungen

ORNL, a multipurpose research facility managed by Lockheed Martin Energy Research Corp. for the U.S. Department of Energy, is an equal opportunity employer committed to building and maintaining a diverse work force.





University of California, San Francisco

POSTDOCTORAL FELLOWSHIP -

DR. KARL WEISGRABER Investigate the structure and function of apolipoprotein E in relation to its role in lipid metabolism and Alzheimer's disease. Prior knowledge and demontrated skills in molecular biology, site-directed mutagenesis, and recombinant protein production desired.

Please send CV and references to: # C97-023, Gladstone Institutes, P.O. Box 419100, San Francisco, CA 94141, or fax to (415) 431-4039. Email: hr@gladstone.ucsf.edu Web:http://gladstone.ucsf.edu

Equal Opportunity/Affirmative Action Employer





RESEARCH ASSISTANT PROFESSOR position in molecular neurobiology is available starting August 1, 1997. Candidates should have at least four years of postdoctoral experience in molecular, cellular, and animal studies in neurobiology as documented by publications in peer-reviewed journals, and expertise in methods of molecular biology, cell culture, immunochemistry and animal surgery. Send curriculum vitae and names and addresses of three referees by July 7, 1997 to: Dr. Richard L. Davidson, Head, Department of Genetics (MC 669), University of Illinois at Chicago, Chicago, IL 60607-7170. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.





(OH YEAH, AND \$20.000)

If you're a recent Ph.D. graduate whose thesis work was in molecular biology, we'd like to congratulate you. We'd also like to give you a little recognition for a job well done. All you have to do is enter an essay based on your graduate thesis to the 1997 Pharmacia Biotech & *Science* Prize for Young Scientists.

Your essay will be reviewed by a panel of distinguished scientists—who will then select one Grand Prize winner and up to seven other winners. The Grand Prize winner will receive the rewards mentioned above; all other winners will receive \$5,000 each and a free trip to Sweden to attend the award ceremony.

CALL FOR ENTRIES

To be eligible, you must have received your Ph.D. between I January and 31 December 1996. Your thesis work must have been in the field of molecular biology. To enter, you must submit a 1,000 word essay that describes your thesis work and places it in perspective with regard to the field of molecular biology. The essay may be submitted in either English, French, German, Spanish, Japanese, or Chinese (Mandarin).

The closing date for entries is 30 June 1997. All prizes will be presented in Sweden in December 1997. Full details and the required entry form can be obtained from:

- the administrator of the Award Committee at the address below
- within the Science homepage at http://www.aaas.org/science/ prize.htm
- within the Pharmacia Biotech homepage at http://www. biotech.pharmacia.se



The Award Committee

Pharmacia Biotech & Science Prize for Young Scientists Enquiries from Europe – Science International, 14 George IV Street, Cambridge, CB2 1HH, UK.Tel: +44 1223 302067, Fax: +44 1223 302068 Enquiries from USA and other regions – Science, 1200 New York Avenue, NW, Washington, DC 20005 USA.Tel: 202-326-6504, Fax: 202-289-7562

POSITIONS OPEN

DIRECTOR, GLOBAL CLIMATE

The World Resources Institute, a non-profit international policy research organization, is seeking a Director of its global climate activities. This individual will help develop strategies for addressing the risk of climate change, undertake or supervise analyses to guide the development of such strategies and identify promising policv solutions, and work to ensure that the chosen objectives are achieved. The Director will be a member of WRI's senior strategic management group, providing long-range vision, encouraging creativity, and strength-ening integration across WRI's programs. The position requires a thorough understanding of the substantive and political dimensions of climate policy, excellence in writ-ten and spoken communication, and demonstrated achievement in influencing climate policy or issues related to climate policy. A Master's, Ph.D., or equivalent training plus ten years of experience is desirable. Experience working with the private sector or on North-South issues related to the climate convention a plus. Salary commensurate with experience; excellent benefits. Send résumés to: VP for Program, WRI, 1709 New York Avenue, NW, Washington, DC 20006; FAX: 202-662-2511. Equal Opportunity Employer. Non-U.S. candidates or candidates with international experience are encouraged to apply.

RESEARCH FACULTY POSITIONS

Institute of Botany, Academia Sinica, Taipei, Taiwan, R.O.C. seeks applications to fill two positions at the following three levels: full research fellow (equivalent to full professor), associate research fellow (equivalent to associate professor) and assistant research fellow (equivalent to assistant professor). Applicants should have a doctoral degree with at least two years of postdoctoral research experience in the areas specified below: 1) A molecular biologist or cell biologist working on plant signal transduction or senescence or plant-microbe and -insect interactions. 2) A biochemist or chemist working on plant secondary metabolism or photosynthesis. 3) A physiologist working on plant stress. 4) A geneticist working on plant genetics or molecular genetics or population biology or evolution.

All applications should include a curriculum vitae, a succinct statement of research plans, and the names and addresses of three professional references. Applicants should also state the level of position desired.

Please direct all inquiries and applications before July 31, 1997 to: Dr. Hwa Dai, Institute of Botany, Academia Sinica, Nankang, Taipei, Taiwan, 11529, R.O.C. FAX: 886-2-782-7954; Email: bodaihwa@ gate.sinica.edu.tw.

REEVE-IRVINE ENDOWED CHAIR IN SPINAL CORD INJURY RESEARCH

The University of California, Irvine, College of Medicine is seeking qualified applicants for an endowed Chair in Spinal Cord Injury Research at the level of **ASSIS**-TANT, ASSOCIÁTE or FULL PROFESSOR. We are seeking candidates with demonstrated interest, experience, and accomplishment in studies of central nervous system damage and/or tissue repair, and the potential for making substantial contributions to understanding and facilitating mechanisms of functional recovery following would be expected to establish a vigorous federally funded research program. UCI offers the opportunity to participate in graduate and postdoctoral training programs and collaborative research with a large community of neuroscientists working in fields of neuronal development, plasticity, and repair. The position would entail a tenuretrack appointment, substantial start-up discretionary funds and a yearly research endowment. The appointment could be made in any College of Medicine department. Applicants should send their curriculum vitae and a statement of interest to the chair of the search committee: Christine Gall, Ph.D., Department of Anatomy, University of California, Irvine, CA 92697-1275. The University of California is an Equal Opportunity Employer.

BIOLOGICAL OCEANOGRAPHER FACULTY POSITION

The Division of Marine and Environmental Systems at the Florida Institute of Technology (Florida Tech) seeks a Ph.D. biological oceanographer for a full-time faculty position to start as soon as possible. For details please see our webpage: www.fit.edu/AcadRes/dmes/ or contact us by FAX: 407-984-8461.

Florida Tech is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

MOLECULAR PHARMACOLOGY

The Department of Pharmacology, University of Kentucky College of Medicine at Lexington is expanding its programs in molecular pharmacology. Excellent facilities and new resources are available to support this expansion. Tenure-track positions are available immediately at the ASSISTANT or ASSOCIATE PROFESSOR levels. We encourage applications from candidates whose research involves the use of modern molecular methods in the study of the structure and function of voltage-gated or ligand-gated ion channels, signaling cascades or regulation of steroid- or cancer-related genes. Expertise in molecular medicine is also of interest. Potential relevance to neurodegenerative, cardiovascular, carcinogenic, or other related disease conditions is desirable but not essential. Candidates should have a Ph.D. or M.D. with several years of postdoctoral experience and should have extramural support or clear evidence of the ability to develop an independent, externally-funded research program. The successful candidate should also be interested in possible collaborative projects with other faculty. Participation in departmental training of medical and graduate students is an important aspect of this position. Interested candidates should send curriculum vitae and the names, addresses, and telephone numbers of three references to:

Faculty Search Committee Department of Pharmacology University of Kentucky College of Medicine MS-305 Medical Center Lexington, KY 40536-0084

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

BIOLOGIST: Monmouth College seeks applications for a tenure-track ASSISTANT or ASSOCIATE PRO-FESSOR position in biology beginning fall 1997. Candidates with a Ph.D. in biology or related field and a strong commitment to undergraduate teaching in a liber-al arts setting are encouraged to apply. Participation in general education courses and supervision of undergraduate research projects is expected. Candidates with interdisciplinary teaching experience and breadth in the major preferred. Major responsibilities include teaching Life on Earth (biology for non-majors), Botany, Field Botany, Mendelian Genetics, and Microbiology. Ability to teach Cell Biology and/or Environmental Science a plus. Send letter of application, curriculum vitae, teaching philosophy, and a list of at least three professional references with telephone numbers to: Michael McNall, Director of Personnel, Monmouth College, 700 East Broadway, Monmouth, IL 61462. Formal review of applications will begin June 30, 1997, and continue until the position is filled. Applications received by this date will be given full consideration. Monmouth College is an Equal Opportunity Employer and committed to diversity. We invite and encourage applications from women and minority candidates.

TENURE-TRACK FACULTY POSITIONS INSTITUTE OF BIOMEDICAL SCIENCES ACADEMIA SINICA

Institute of Biomedical Sciences, Academia Sinica seeks outstanding applicants to partake research in a newly established DNA-based vaccine research program project for flavivirus. The three tenure-track positions are open at all ranks suitable to the incumbents of the following expertise: molecular immunology, cellular immunology, and virology. Applications with curriculum vitae and a list of publications should be submitted to: Dr. Sho Tone Lee, Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan 11529. Telephone: (02) 789-9170; FAX: (02) 785-3569; Email: bmtom@ccvax. sinica.edu.tw.

UNIVERSITY OF FLORIDA

Seeks an ASSOCIATE PROFESSOR in the Department of Medicine, Division of Endocrinology and Metabolism. Board certified in internal medicine and board eligible for endocrinology. A strong interest in clinical diabetrology is required, as the faculty member will be key in the development of a Diabetes Center of Excellence. Responsibilities will also include quality patient care, teaching, and clinical research. Salary and benefits commensurate with experience. Recruiting deadline: June 19, 1997. Anticipated start date: August 1, 1997. Reply with curriculum vitae to: M. B. Grant, M.D., Associate Professor and Chief, Box 100226, University of Florida, Gainesville, FL 32610. An Equal Employment/Affirmative Action Employer.

POSITIONS OPEN

IMMUNOLOGY FACULTY APPOINTMENTS DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY The University of Texas Medical Branch

The Department of Microbiology and Immunology at the University of Texas Medical Branch invites applica-tions for two tenure-track positions at the **ASSISTANT**/ ASSOCIATE PROFESSOR level. The successful applicants are expected to develop, or have previously established, innovative independent research programs in immunology. We are particularly interested in, but not limited to, individuals pursuing research into molecular mechanisms that regulate immune responses to infectious agents, signal transduction in leukocyte activation, and related processes. We offer competitive start-up packages, modern laboratory space, and an interactive environment with excellent opportunities for productive collaborations with colleagues in the basic science and clinical departments; the Sealy Centers for Molecular Science, Structural Biology, and Aging; the NIEHS Center for Environmental Health Sciences; the NIAID Hepatitis C Research Center; and the WHO Collaborating Center for Tropical Diseases. Please send applications, including a summary of past accomplishments, future research plans, and the names, addresses, and telephone numbers of three references to: Immunology Search Committee, Department of Microbiology and Immunology, The University of Texas Medical Branch, 301 University Boule-vard, Galveston, TX 77555-1019. UTMB hires only persons authorized to work in the United States.

University of Texas Medical Branch is an Affirmative Action/ Equal Opportunity Employer. Minorities/Females/Disabled/ Veterans.

FACULTY POSITION MOLECULAR VIROLOGY AND BIOCHEMISTRY University of Wisconsin-Madison

The Institute for Molecular Virology and the Department of Biochemistry invite applications for a joint, tenure-track position at the rank of **ASSISTANT PROFES-SOR**. Applicants should demonstrate interests and expertise in the broad area of molecular virology. Responsibilities include developing an independent, internationally recognized research program, participating in the Department of Biochemistry graduate program and campus multidisciplinary programs such as virology or cellular and molecular biology, and teaching in the Biochemistry Department's curriculum. Salary will be on a 12-month basis and commensurate with the candidate's experience.

Applicants should submit 1) a curriculum vitae, including publication list, 2) a summary of research accomplishments and future research plans, and 3) three letters of reference to: Dr. Paul Friesen, Search Committee Chair, Institute for Molecular Virology, University of Wisconsin-Madison, 1525 Linden Drive, Madison, WI 53706; Telephone: 608-262-4540. To assure consideration, all application materials should be received by September 1, 1997.

The University of Wisconsin is an Equal Opportunity/Affinnative Action Employer. Minority and women candidates and all other qualified persons are encouraged to apply. Under Wisconsin statutes, names, titles, and addresses of applicants and nonlinees may be subject to public release upon request.

ASSISTANT/ASSOCIATE PROFESSOR

The Center for Cell Signaling at the University of Virginia seeks to add an established faculty member to complement Center research programs on molecular mechanisms of intracellular signal transduction and nucleocytoplasmic transport. This individual is expected to have a record of research productivity and grant support. The University provides an outstanding scientific environment with a variety of core facilities, research centers, and graduate training programs. The Center operates as a separate unit in new laboratory space, and Center faculty have tenure-track academic appointments in departments in the School of Medicine. Additional information is available at the website: http://www.med.virginia. edu/inter-dis/signaling/celsig00.html.

Applications will be handled in confidence on a continuing basis starting June, 1997. Please send a curriculum vitae, including a list of publications and grant support for the past five years, to: Cell Signaling Committee, David L. Brautigan, Chair, Box #577, Health Sciences Center University of Virginia, Charlottesville, VA 22908. The University of Virginia is an Equal Opportunity/Affinnative Action Employer. Applications from momen and undercepresented minorities are especially encouraged.

Public Announcement Regarding a New Research and Development Project

on Geothermal Energy Titled

"Development of Technology for Reservoir Mass and Heat Flow Characterization"

Announced by the New Energy and Industrial Technology Development Organization (NEDO) on June 13, 1997

In order to promote the development of oil-alternative energy, the New Energy and Industrial Technology Development Organization (NEDO) will entrust each of the following research themes for the "Development of Technology for Reservoir Mass and Heat Flow Characterization," a geothermal energy project funded by the Ministry of International Trade and Industry. All interested parties can apply to participate in this project in accordance with the information below.

- 1. Title of the Research and Development Project
- "Development of Technology for Reservoir Mass and Heat Flow Characterization"
- 2. Outline of the Research and Development Work to be Entrusted

The work includes the following five themes, which will contribute to the development of technology to precisely characterize and forecast the mass and heat flow of geothermal reservoirs.

- (1) Characterization of fracture hydrological properties (Theme 1)
 - This theme's objective is to develop 1) technology which uses such methods as injection tests and pressure and steam flow measurements to characterize the hydrological properties of reservoir fractures, and 2) technology which uses tube-waves to estimate the hydrological properties of fractures crossed by a borehole. These technologies should also be applicable to theme (2)-d below.
- (2) Monitoring and modeling of reservoir mass and heat flow
 - a. Gravity monitoring (Theme 2)
 - This theme's objective is to develop technology for precisely measuring gravity change, both on the ground surface and in boreholes, caused when steam is produced from or water is injected into geothermal reservoirs. This technology should also be applicable to theme (2)-d below.
 - b. Electrical and electromagnetic monitoring (Theme 3)

This theme's objective is to develop technology for precisely measuring resistivity change and self-potential change caused when steam is produced from or water is injected into geothermal reservoirs. This technology should also be applicable to theme (2)-d below.

c. Seismic monitoring (Theme 4)

This theme's objective is to develop technology for precisely analyzing the three-dimensional seismic velocity structure of geothermal reservoirs and determining micro-earthquake hypocenters using both natural micro-earthquakes and artificial sources. This technology should also be applicable to theme (2)-d below.

d. Integrated reservoir modeling and simulation techniques (Theme 5)

This theme's objective is to develop technology for carrying out integrated analysis of various types of data and for modeling geothermal reservoirs in order to precisely forecast the mass and heat flow of geothermal reservoirs. The data to be analyzed will include data collected by the technologies developed in the above four ((1), (2)-a, (2)-b, (2)-c) themes as well as data collected by other methods and from other sources.

3. Procedures for Application

(1) Qualification Criteria

All companies or research organizations who meet the following qualification criteria may submit an application to participate in the above project:

- a. The applicant must have previous research and development experience in the field covered by or related to the project and possess the organizational structure, human resources, and research facilities required to carry out the project work and achieve the project objectives.
- b. The applicant must be in sound financial condition and have the ability to manage its finances and facilities as necessary to smoothly carry out the project work.
- c. The applicant must be able to comply with NEDO's instructions, if such are necessary, to fully carry out the project work.

d. The applicant must prepare an experimental geothermal field in Japan for carrying out the research and development themes it wishes to be entrusted with in this project.

e. If the applicant is entrusted with any of the research and development themes, it must cooperate with other applicants entrusted with other themes for the smooth implementation of the project and achievement of project objectives.

f. The applicant must attend the explanatory meeting held by NEDO as set forth below in item (2). However, if the applicant whose headquarters is not based in Japan cannot attend the explanatory meeting for an acceptable reason, the applicant may be represented at the meeting by a responsible agent or representative who is capable of accurately conveying the contents of the meeting in detail.

- (2) Explanatory Meeting
 - 1) An explanatory meeting will be held on the date shown below. At that meeting, NEDO will fully explain the details of the project's research and development work to be entrusted and the application documents to be submitted.
 - 2) Japanese will be the only language used during the meeting.
 - 3) Date and place of the meeting: Date: Tuesday, June 24, 1997
 - Time: From 14:30 to 16:00

Place: Special Meeting Room (Sunshine 60 Building, 28th Floor, room 28-11)

4. Remarks

- (1) In accordance with the procedures and documents explained at the June 24 meeting, all applications must be submitted to NEDO's Contract Division by 17:00 on Tuesday, August 12, 1997.
- (2) If you have questions regarding contract procedures or the contract itself, please contact NEDO in Japanese as follows: New Energy and Industrial Technology Development Organization
 - Contract Division, Accounting Department
 - 28th Floor, Sunshine 60 Building
 - 1-1, Higashi-Ikebukuro 3-chome
 - Toshima-ku, Tokyo 170 Telephone: +81-3-3987-9322

POSITIONS OPEN

The Laboratory of Chemoprevention, Division of Basic Science, National Cancer Institute, is searching for a TENURE-TRACK SCIENTIST to conduct independent research in the area of immunology/oncology. Applicants should have a Ph.D., M.D., or equivalent degree and have a solid record of scientific accomplishments. The successful candidate should have a strong background in both oncology and immunology, with an interest in identifying novel approaches to clinically rel-evant issues. The Laboratory of Chemoprevention is a leader in research on TGF- β . Ongoing areas of interest include study of cell cycle control, TGF- β signaling, tumor suppression and carcinogenesis, the immuno modulatory properties of TGF- β , and control of expression of TGF- β and its receptors. Numerous lines of transgenic and knockout mice have been generated for this purpose. Scientific interactions in LC are extensive. The LC website can be accessed at: rex.nci.nih.gov/ RESEARCH/basic/lc/lcpage.htm. Applicants should send cover letter, curriculum vitae and bibliography, statement of research interests, and have three letters of recommendation sent to: Chair, LC Search Committee, NCI, c/o Michelle Porturica, Executive Secretary, Building 41, Room A100, 41 Library Drive-MSC 5055, Be-thesda, MD 20892-5055. Applications must be received by July 7, 1997. The National Cancer Institute is an Equal Opportunity Employer. Selection for this position will be based on merit, with no discrimination for non-merit reasons such as race, color, religion, gender, national origin, politics, marital status, physical or mental disability, age, sexual orientation, or membership or non-membership in an employee organization. U.S. citizenship or eligibleresident alien status is required.

The Division of Human Genetics of the Children's Hospital Research Foundation seeks M.D.'s, Ph.D.'s or M.D./Ph.D.'s with established research programs to join an expanding program in human/medical genetics to facilitate and promote interdisciplinary research in geneinfluenced traits. Emphasis on quantitative molecular approaches to disease/trait gene identification for heritable disorders and the development of supporting core facilities. ASSISTANT and ASSOCIATE/FULL PRO-FESSOR positions available. Academic rank will be determined by candidate's credentials and expertise. Excellent start-up support. Send curriculum vitae and three letters of support to: Gregory A. Grabowski, M.D., Director, Division and Program in Human Genetics, Children's Hospital Medical Center (CHMC), 3333 Burnet Avenue, Cincinnati, OH 45229-3039. CHMC is an Affimative Action/Equal Opportunity Institution. Women and minorities are enouraged to apply.

SYSTEMATIC ENTOMOLOGIST CALIFORNIA ACADEMY OF SCIENCES

The California Academy of Sciences invites applications for a regular faculty position (10-month annual basis) of Assistant Curator of Entomology. Individuals are sought who: 1) have primary interest in and commitment to collection-based research in systematic entomology (including arachnids and myriapods); 2) are familiar with and capable of employing a range of systematic methods and techniques (e.g., comparative morphological, molecular, phylogenetic, and historical biogeographic analyses) in their research; 3) have interest and experience in field work; and 4) will contribute to the development and curation of a major collection of worldwide scope and use. Candidates must have a Ph.D. and an active research program. Responsibilities include original research, and participation in curatorial, administrative, and educational activities of the Academy. Detailed position description and other information are available through the Academy's website: www.calacademy.org/research. Applicants should forward a curriculum vitae, description of research goals, and the names, mailing and Email addresses, and telephone and FAX numbers of three references to: Human Resources #ACE, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118-4599. Deadline for applications is September 15, 1997

BIOLOGY—ONE-YEAR POSITION for 1997-98. M.S. required, Ph.D. preferred. Responsibilities: strong dedication to teaching, genetics, general physiology, general biology, and their accompanying laboratories; supervision of student assistants. Teaching experience preferred. Send letter of application, curriculum vitae, transcripts, names and telephone numbers of three references to: **Dean James Dawsey, Emory & Henry College, Emory, VA 24327**. Closing date June 25, 1997. Equal Opportunity Employer/Affinnative Action.

POSITIONS OPEN

The USDA, Agricultural Research Service (ARS), Grain Marketing and Production Research Center, Man hattan, Kansas, announces a position for a **RESEARCH** ENTOMOLOGIST who will serve as Research Leader for the Biological Research Unit (BRU). Duties include providing scientific leadership to integrate the research efforts of a multidisciplinary team of entomologists, chemists, biologists, and microbiologists. The BRU mission is to develop economically and ecologically sound methods to manage insect pests in stored grain, processed commodities, and storage and processing facilities. Personal research responsibilities include conducting a highly technical, long-term basic and applied integrated pest management research program involving studies on behavioral, biochemical, genetic, or physiological responses of pests of stored commodities to their natural enemies, environmental parameters, and control measures with specific emphasis on how these interactions impact pest adaptation to control technologies. A Ph.D. in entomol-ogy or related field is highly desirable. An extensive working knowledge of insect behavior, biochemistry, ecology, or genetics is required, and the applicant should be familiar with molecular biology techniques. A working knowledge of statistics and modeling techniques used in laboratory and field studies of insects is desirable, as is knowledge of the use of microcomputers in research. Salary is commensurate with qualifications and experience (\$63,169-\$96,594). For vacancy announcement and application forms contact: Jimmie Nell Oliver at 913-776-2737 no later than July 21, 1997. For position information contact: Dr. Donald E. Koeltzow at 913-776-2701. Must be a U.S. citizen. The USDA and its agencies are committed to Equal Employment Opportunity and applicable civil rights provisions.

THE PENNSYLVANIA STATE UNIVERSITY COLLEGE OF MEDICINE THE HENRY HOOD, M.D. RESEARCH PROGRAM Instructor or Assistant Professor Positions

Positions are available immediately in the laboratory of Dr. Janet D. Robishaw, located in the Sigfried and Janet Weis Center for Research, for applicants with several years of postdoctoral experience in embryology and/or developmental biology to study the role of G protein $\beta\gamma$ sub-units involved in a variety of signaling pathways. For one position, expertise in *in situ* hybridization, immunohistochemistry, and/or differential display RT-PCR is desirable. For the second position, expertise in homolgous recombination in ES cells is desirable. Salary will be commensurate with years of postdoctoral experience. Send a description of your research interests, curriculum vitae, and three references to: Henry Hood, M.D. Research **Program, Sigfried and Janet Weis Center for Research, 100 North Academy Avenue, Danville, PA 17822-2614, Attention: Barbara A. Brown**.

For your health, the Weis Center for Research of the Pennsylvania State University is a smoke-free campus. We are an Equal Opportunity/Affirmative Action Employer and encourage minority and female applicants to apply.

The Division of Human Genetics of the Children's Hospital Research Foundation seeks an ABMG CERTI-FIED ACADEMIC M.D., or M.D./Ph.D. with an established research/clinical expertise in complex genetic traits. Graduate and/or Fellow (Resident) training experience highly desirable. Will join an expanding program in human/medical genetics in developing interdisciplinary clinical/clinical research programs in complex genetic traits and training. Academic rank will be determined by candidate's credentials and experience. Excellent start-up support. Send curriculum vitae and three letters of support to: Gregory A. Grabowski, M.D., Director, Division and Program in Human Genetics, Children's Hospital Medical Center (CHMC), 3333 Burnet Avenue, Cincinnati, OH 45229-3039. CHMC is an Affirmative Action/Equal Opportunity Institution. Women and minorities are encouraged to apply.

Position available to study GENE REGULATION during development of the human T-cell surface protein CD8. Send curriculum vitae and names of three referees to: Dr. Paula Kavathas, Departments of Laboratory Medicine, Genetics, and Section of Immunobiology, Yale University, 333 Cedar Street, New Haven, CT 06520-8035; FAX: 203-737-4111; Email: kavathas@beaker.med.yale.edu.

POSITIONS OPEN

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE MICROBIOLOGISTS/VETERINARY MEDICAL OFFICERS Plum Island Animal Disease Center

The U.S. Department of Agriculture, Agricultural Research Service (ARS), Plum Island Animal Disease Center is seeking applicants for one permanent and one temporary research position. The Center is situated off the northeast tip of Long Island, NY. USDA ferry services to Orient Point, NY and Old Saybrook, CT offer a choice of living on Long Island or in CT.

Microbiologist/Veterinary Medical Officer (Permanent Appointment) GS13/14. The assignment is to develop a basic and applied research program on the pathogenesis, diagnosis and molecular epidemiology of vesicular stomatitis virus (VSV). The successful candidate will have knowledge of virology, pathogenesis, and epidemiology of VSV and research experience in the clinical aspects and diagnosis of VSV, particularly RT-PCR based methods. Experience working in biosafety level 3+ or higher is desired, as well as experience in leading or collaborating with multidisciplinary scientific teams, espe cially at the international level. Both a DVM and Ph.D. degree are desirable. For information concerning this position contact: C. A. Whetstone, Telephone: 516-323-**2500, Ext. 441.** This is a permanent appointment and U.S. eitizenship is required. Salary is commensurate with experience (\$55-85K). Applications for this position must be postmarked by June 27, 1997 and should be marked X7N-0088

Microbiologist, Postdoctoral Research Associate (Temporary Appointment) GS11/12. Incumbent will participate in the Foot-and-Mouth Disease (FMD) research project on development of an FMD vaccine from retroinverso-D-amino acid peptides. Cellular, humoral, and mucosal innunc responses in cattle and swine will be evaluated, including FACS analyses and cytokine profiles. Peptide vaccines will be constructed to direct the immune response based on immunology studies and methods will be devised to present immunogenic peptides so that levels of protection are optimized. For information concerning this position contact: C. A. Whetstone, Telephone: 516-323-2500 ext. 441. This is a temporary two-year appointment, salary 539–47K. Applications for this position must be postmarked by June 27, 1997 and should be marked RA-97-1011.

For application procedures/forms please contact: Maria Martocchia, Telephone: 516-323-2500, Ext. 346, FAX: 516-323-2507. ARS is an Equal Opportunity Employer.

The Division of Human Genetics of the Children's Hospital Research Foundation seeks a Ph.D. ASSIST-ANT PROFESSOR to join an expanding program in human/medical genetics. Molecular genetics, transgenic/knockout mouse, enzymology, and/or protein biochemistry expertise required. Send curriculum vitae and three letters of support to: Gregory A. Grabowski, M.D., Director, Division and Program in Human Genetics, Children's Hospital Medical Center (CHMC), 3333 Burnet Avenue, Cincinnati, OH 45229-3039. CHMC is an Affirmative Action/Equal Opportunity Institution. Women and minorities are encouraged to apply.

The University of Florida seeks applicants for the position of **ASSISTANT PROFESSOR** in medicine in the Division of Cardiology, Department of Medicine. M.D. degree, BC/BE in cardiology. Experience in heart transplantation and echocardiography. Salary and benefits commensurate with experience. Recruiting deadline: June 19, 1997. Anticipated starting date: July 3, 1997. Please reply with curriculum vitate to: Barry D. Bettolet, M.D., Chairman Search Committee, Division of Cardiology, Box 100277, JHMHC, University of Florida, Gainesville, FL 32610. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION TRANSCRIPTIONAL REGULATION PORTLAND, OREGON

Position available to study signaling and regulation of transcription (see *Genes Dev.*, 8:2527, 1994; *J. Biol. Chem.*, 271:3066, 1996). Experience in biochemistry and/or molecular biology desirable. Send curriculum vitae and names of references to: Richard Maurer, Cell Developmental Biology, L215, Oregon Health Sciences University, Portland, OR 97201-3098. FAX: 503-494-4253; Email: maurerr@ohsu.edu.

NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS

The National Institutes of Health invites applications for the position of Director, National Institute on Deafness and Other Communication Disorders (NIDCD). The incumbent will be responsible for the development of Institute policies, procedures, and managerial practices; for the establishment of program plans and priorities; and for the implementation and evaluation of a myriad of programmatic activities. He/she will be responsible for administering a major Federal research program whose primary responsibility is to conduct, foster, and support basic and clinical research in the normal processes as well as the diseases and disorders affecting hearing, balance, smell, taste, voice, speech and language. The Institute has an intramural research program conducting basic research in molecular and cellular biology; biochemistry; immunology; bioengineering; epidemiology; genetics; pathology; physiology; and pharmacology. The NIDCD scientists also guide clinical research and treatment programs which encompass the disorders of human communication.

This is a position in Senior Executive Service with a salary ranging from ES-1 to ES-6 (currently \$103,897-\$123,100, including locality pay). Physicians may be eligible for a Physicians Comparability Allowance of up to \$20,000 per year. A recruitment bonus of up to 25% of base pay may be available to a non-Federal applicant selected for this position, and a relocation bonus of up to 25% of base pay may be available to a permanent Federal employee who must relocate to accept this position.

Applicants must meet the minimum educational requirements, or equivalent combination of education and experience, for the Medical Officer, GS-602 series, or the Health Scientist Administrator, GS-601 series, and the following mandatory qualifications: (1) Senior level knowledge of and familiarity with research activities in one or more of the areas of research that has or will contribute new knowledge in the biomedical and behavioral issues recognized as part of the NIDCD mandate, e.g., research related to normal or abnormal hearing and other communication processes, including diseases or disorders affecting hearing, balance/vestibular system, smell, taste, voice, speech and language, or in one or more areas related to deafness or other communication disorders. This knowledge must be evidenced by publications in the scientific literature; and (2) Ability to provide leadership/management of a research program in human communication of national and international scope and complexity involving dealings with outside groups and extensive planning, progress assessment, and analysis of program objectives; development of plans for the resolution of major operational problems and issues; and management of financial and human resources, including selecting, managing, and motivating staff using fair and equitable staffing/recruitment practices, and implementing EEO and affirmative action principles and objectives.

The vacancy announcement (#DC-97-0006) may be obtained by calling 301-496-1443 (Voice). Applicants are required to submit a Curriculum Vitae or resume; bibliography; or any other written format which addresses the requirements indicated in this announcement; and a detailed statement addressing the mandatory qualifications, to the following address:

NATIONAL INSTITUTES OF HEALTH DIVISION OF SENIOR SYSTEMS BUILDING 31, ROOM B3C08, 9000 ROCKVILLE PIKE BETHESDA, MARYLAND 20892 ATTENTION: FRED WALKER Applications must be postmarked no later than August 15, 1997

Applicants with access to the Internet+s World Wide Web may browse the NIH Home Page to view the announcement and may apply through the Web at URL: http://helix.nih.gov:8001/jobs/ Applicants may E-Mail their application material via E-Mail to fcwalker@helix.nih.gov

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

Pew

Latin American Fellows Program in the Biomedical Sciences A Program of The Pew Charitable Trusts

The Pew Charitable Trusts, one of the United States' largest private foundations, is sponsoring a program to provide support for young scientists from Latin America for post-doctoral training in the United States. Ten Fellows will be selected in 1998. An award of \$40,000 will be provided as a salary stipend for the fellow during the period of training(2 years) and will be administered by the sponsoring U.S. institution. The sponsoring institution is expected to supplement the stipend with at least \$5,000 a year and provide medical benefits for the fellow. Following the two year fellowship, the Program will issue an additional \$35,000 award to the sponsoring institution to purchase equipment and supplies for the fellow to establish a laboratory in his or her home country.

Applicants must have held a Ph.D. and/or M.D. degrees, or equivalent, for no more than five years as of July 1,1998. Applicants must not have had any previous postdoctoral training outside of their home country as of October 1, 1997. Applicants are not required to have a commitment of a position and laboratory space after the fellowship. However, applicants must submit a written statement of intent to return to Latin america. Fellows must have a confirmed position and laboratory space in their home country by the end of the fellowship in order to obtain the \$35,000 portion of the award.

Fellows will be selected on the basis of their promise as outstanding investigators, as well as the scientific merit of their research proposal, their record of training and how well their interests coincide with laboratory of their sponsor in the United States. If potential applicants need assistance with the identification of an appropriate sponsoring laboratory in the United States, they may contact the Program Office. The program will accept applications from Mexico, Central and South America. Applications may be obtained from the Regional Committee Chairperson for your country listed or from our website at http://futurehealth.ucsf.edu/pewlatin.html. The application deadline is October 1, 1997. Winners will be notified in April 1998 and the fellowship should begin no later than August 1998.

ARGENTINA

Isreal Algranati, Instituto de Investigaciones Bioquimicas Fundacion Campomar, Av. Patricias Argentinas 435, 1405 Buenos Aires, Argentina Tel: 863-4018 Fax:865-2246 e-mail: algra@iris.iib.uba.ar

BRASIL

Carlos E. Rocha Miranda, Vice President Acdemia Brasilara de Ciencias, Rua Anfilofio de Carvalho, 29, 3º Andar, 20030-060 Rio de Janeiro,RJ - Brasil Tel: 220-4794 Fax: 240-4695 e-mail: cerm@abc.org.br

MEXICO

Hugo Arechiga, Facultad de Medicina UNAM, Ciudad Universitaria 04510 Mexico, D.F. Tel: 622-0725 Fax: 550-8859 e- mail: archiga@servidor.unam.mx

ALL OTHER COUNTRIES

Silvia Montano, The Pew Latin American Fellows Program, 1388 Sutter Street, Suite 805, San Francisco, CA 94109 Tel: 415-476-5116 Fax: 415-476-4113 e-mail: montano@itsa.ucsf.edu

POSITIONS OPEN

STAFF SCIENTIST SAMSUNG BIOMEDICAL RESEARCH INSTITUTE

The center for basic research at the Samsung Biomedical Research Institute is seeking a staff scientist to develop an independent research program. The successful candidate will have the opportunity to interact with other scientists in the center with expertise in molecular immunology, nucleic acid biochemistry, developmental and molecular genetics, and molecular virology. Suitable areas of research include, but are not limited to, neurobiology and cellular and molecular biology of cell signaling pathways and cell cycle. Candidates must hold the degree of Ph.D. or M.D. and have a minimum of two years of postdoctoral research experience.

Salary will be commensurate with qualifications and experience. Applicants should send a curriculum vitae, a statement of research interests, copies of major publications, and three names of references by July 31, 1997 to:

Jin-Hue Kang Chief of Administration Office Samsung Biomedical Research Institute Kangnam-ku, Ilwon-dong 50 Seoul, 135-230 Korea

Telephone: 82-2-3410-3610; FAX: 82-2-3410-3608; Email: jhk327@samsung.co.kr

CORE STAFF VETERINARIAN

The New England Regional Primate Research Center, Harvard Medical School, seeks a full-time, core staff veterinarian as part of a three veterinarian team responsible for veterinary care and services to approximately 1500 nonhuman primates in an AAALAC accredited facility. Primary responsibilities include veterinary care, preventative medicine, and assisting core staff and affiliated scientists with the design and implementation of a diverse biomedical research program. The successful applicant is also expected to develop collaborative and independent research programs. Will participate in continuing educational programs for trainees in laboratory animal medicine, veterinary students, and veterinary technicians. Will also have responsibilities for ensuring compliance with federal, state, and AAALAC regulations and guidelines. Training and experience in laboratory animal medicine, clinical primatology, or another specialty required. Interested candidates should send a letter of application, curriculum vitae, and names of three references to: Ronald D. Hunt, D.V.M., Director, at New England Region-al Primate Research Center, Harvard Medical School, One Pine Hill Drive, P.O. Box 9102, Southborough, MA 01772-9102.

Harvard University is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE

Research associate position to clone novel glutathione (GSH) transporters from lens and brain endothelial cells is immediately available. Candidate will work with a group of NIH-funded investigators who have characterized kinetic features and ion requirement of these novel GSH transporters using animals and tissue culture models. Candidate should have a Ph.D. or M.D. with documented expertise in expression cloning of membrane transporters. Please send cover letter and curriculum vitae to: Andrew Stolz, M.D., USC Department of Medicine, Hoffman Medical Reseach, 2011 Zonal Avenue, Los Angeles, CA 90033. FAX: 213-342-3420; Email: astolz@hsc.usc.edu.

POSTDOCTORAL POSITION available to study gene regulation of G-protein coupled receptors. Studies will examine signal transduction pathways, *cis*-acting and *mans*-acting factors controlling mRNA degradation. Strong background in molecular and cellular biology or pharmacology is desirable. Send curriculum vitae plus three letters of reference to: Norman H. Lee, Ph.D., c/o The Institute for Genomic Research, Attn: Human Resources, 9712 Medical Center Drive, Rockville, MD 20850.

CONSULTANTS—Venture capital firm seeks experts for periodic medical device technology evaluation. Cardiology, neurology, urology, and imaging backgrounds a plus. Please send résumé to: Jodi Kilber, Itasca Ventures, LLC, 3800 First Bank Place, P.O. Box 357, Minneapolis, MN 55440-0357; or by Email: jkilber@notes.iaifunds.com.

POSITIONS OPEN



A rapidly growing genomics company located in the heart of Silicon Valley is looking for aggressive and enthusiastic professionals who can make immediate and substantial contributions and who thrive in a collaborative, fast-paced environment. Be a part of the team that is discovering all human genes, including rarely expressed ones, by its high throughput screening cDNA. If you have the following qualifications and are highly motivated, we would like to hear from you.

MOLECULAR BIOLOGISTS

Ph.D.'s with industrial or academic experience in DNA cloning and analysis, PCR and hybridization, DNA diagnostic methods or informatics, and the ability to lead a group of researchers. Postdoctoral researchers with outstanding credentials to

Postdoctoral researchers with outstanding credentials to work in DNA sequencing, DNA biochip development, and database development.

Hyseq, Inc. offers competitive salary and benefits. Send, FAX, or Email résumé with cover letter and salary history to: Hyseq, Inc. Attn: HR Department, 670 Almanor Avenue, Sunnyale, CA 94086; FAX: 408-524-8141; Email: persi@sbh.com. No calls please.

CUTANEOUS ONCOLOGY RESEARCH

The Department of Pathology at Loyola University Chicago Stritch School of Medicine invites postdoctorate professionals with a background in molecular biology, cell biology, or pathology to join their Dermatology Oncology Research Program. Areas of interest include: the role of HHV-8 in Kaposi's Sarcoma, the genotype and phe-notype of T-cells that cause psoriasis, the role of profes-sional and non-professional APCs in hyperproliferative disorders of the skin, and the regulation of apoptosis in the skin diseases. Extensive use of human skin SCID mouse animal models is anticipated to focus on lymphoma and malignant melanomas. Qualified applicants will have teaching and established research experience evidenced by publications and grant funding. Academic rank is proposed at the **ASSISTANT PROFESSOR** level and compensation will be based on candidate's experience. Letters of inquiry, current curriculum vitae and three professional references should be addressed to: Brian J. Nickoloff, M.D., Ph.D., Department of Pathology, Cardinal Bernardin Cancer Center, Room 301, Loyola University Medical Center, 2160 South First Av-enue, Maywood, IL 60153 by September 1, 1997. Loy-ola University Chicago is an Equal Opportunity Employer.

POSTDOCTORAL FELLOW, VISITING SCHOL-AR, AND GRADUATE STUDENT positions are available immediately to study mechanisms of visual integration and development with a focus on electrophysiology and pharmacology of the mammalian retina, using simultaneous patch-clamp and Ca²⁺ imaging in retinal slices/wholemounts and computational modeling. Competitive salary. Send curriculum vitae and future plans to: Dr. Z. Jimmy Zhou, Departments of Physiology and Ophthalmology, MS 505, University of Arkansas for Medical Sciences, Little Rock, AR 72205; Email: zjzhou@exchange.uams.edu.

POSTDOCTORAL POSITION MOLECULAR NEUROSCIENCE IOHNS HOPKINS UNIVERSITY

Position available to study neurodegeneration and novel messengers. Investigations will involve cloning novel genes, development of gene transfer technology (viral and stem cell), and expression of genes in neural systems. Please send curriculum vitae and inquiries to: Drs. Valina and Ted Dawson, Department of Neurology, Johns Hopkins University School of Medicine, 600 North Wolfe Street-Path 210, Baltimore, MD 21287. Email: ted_dawson@qmail.bs.jhu.edu. Equal Opportunity/Affinnative Action Employer.

CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain the Doctor of Optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: Lawrence Shattuck, M.Ed., The New England College of Optometry, The Office of Admissions, 424 Beacon Street, Boston, MA 02115.

POSITIONS OPEN

PROJECT COORDINATOR position at Howard University to oversee a national multi-site genetic linkage study of hereditary prostate cancer in African Americans. Requires minimum of master's degree in genetics, epidemiology or public health. Successful candidate must have superb organizational skills, exceptional interpersonal communication skills, and ability to interface effectively with collaborators at Howard University, the National Human Genome Research Institute, NIH, and multiple recruitment centers. Familiarity with database management for linkage studies is also required. Please send cover letter, curriculum vitae, and names and addresses of three references to: Dr. Georgia M. Dunston, Department of Microbiology, Howard University College of Medicine, Washington, DC 20059. Salary commensurate with qualifications and experience of the candidate. Applications must be postmarked by July 15, 1997. Howard University is an Equal Opportunity Employer.

POSTDOCTORAL/Research Biochemist position available immediately to study protein-protein interactions by NMR. The structure and dynamics of the cyt b5-cyt c complex in solution will be evaluated. Experience with multidimensional NMR and protein purification desirable. Send résumé and three letters of reference to: Dr. Basus, Department of Pharmaceutical Chemistry, University California San Francisco, San Francisco, CA 94111. Email: basus@picasso.ucsf.edu.

POSTDOCTORAL FELLOWSHIP(S) in virology and molecular immunology are available for the study of immune evasion strategies by viruses, the molecular biology of chemokines and their receptors, inflammatory mechanisms, or mRNA degradation at The John P. Robarts Research Institute in London, Ontario, Canada.

The Institute, located at The University of Western Ontario, houses 45 internationally recognized scientists conducting leading research in many areas ranging from vascular disease to transplantation biology. Candidates possessing an M.D. or Ph.D. who are interested in joining this exciting program should send the names of three references and an updated curriculum vitae to either: Dr. Grant McFadden or Dr. David Kelvin, The John P. Robarts Research Institute, 1400 Western Road, London, ON N6G 2V4 Canada. Inquiries to Administrative Assistant, Email: delias@rri.on.ca.

POSTDOCTORAL position available immediately for a molecular biologist to study the nature of interprotein interactions between cyt P450 and its redox partners cyt b5 and cyt P450 reductase. Mutant proteins will be generated and characterized to gain insight into their structure and function. Send résumé and three letters of reference to: Dr. Waskell, Department of Anesthesia, University of California San Francisco, VAMC, San Francisco, CA 94121. FAX: 415-750-6653. Equal Opportunity Employer.

EUKARYOTIC TRANSCRIPTION MECHANISMS

Two **POSTDOCTORAL** slots immediately available to study initiation/regulation of rRNA and 5S RNA transcription [website: http://mmr.bmb.colostate.edu/ bmb/paule.html]. Recent Ph.D.'s experienced in gene cloning/analysis/mutagenesis, and/or protein structural analysis are sought. Competitive salary and benefits, at foot of the Rocky Mountains. Send résumé and have sent three letters of recommendation by July 11 to: Marvin Paule, Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO 80523-1870. Colorado State University is an Equal Opportunity/Affinnative Action Employer.

YALE UNIVERSITY DEPARTMENT OF PEDIATRICS

POSTDOCTORAL POSITION is available immediately to investigate influences of adenosine on mammalian cardiac and neural development. Experience in molecular biology and tissue culture is desirable. Send curriculum vitae and names of three references to: Dr. Scott Rivkees, Yale Pediatrics, P.O. 208081, New Haven, CT 06520. FAX: 203-737-5972. Email: scott.rivkees@yale.edu.

POSTDOCTORAL POSITION in RNA and protein folding at University of Chicago. Kinetic and thermodynamic studies of intermediates and denatured states using chemical modification, stopped-flow and small-angle X-ray scattering methods. Prior experience very desirable. Please send applications to: Dr. Tobin Sosnick (trsosnic@midway.uchicago.edu) and Dr. Tao Pan (taopan@midway.uchicago.edu) and Dr. Tao Fan (taopan@midway.uchicago.edu), 920 East 58th Street, Chicago, IL 60637. The University of Chicago is an Affirmative Action/Equal Opportunity Employer.

Staff Scientist in

Pediatric Endocrinology & Genetics

The Section on Pediatric Endocrinology (SPE), at the Developmental Endocrinology Branch (DEB), NICHD, NIH, is offering a Staff Scientist position for a Pediatric Endocrinologist and Geneticist to establish a patient-based research program in its newly created Unit of Endocrinology & Genetics. The Section has strong laboratorybased research programs in molecular and genetic aspects of Pediatric Endocrinology with particular interest in the genetics of multiple endocrine neoplasia and lentigenosis syndromes. These research activities are essential for the clinical and fellowship programs supported by SPE. NICHD has outstanding scientists in the fields of Endocrinology and Genetics offering the opportunity for collaboration. The NIH Clinical Center offers advanced support for all necessary research protocols. The position is open to US citizens with a record of outstanding research in the area of multiple endocrine neoplasia and lentigenoses syndromes, as evidenced by relevant publications in major scientific journals. Candidates must hold MD and a doctoral degree (PhD, DSc or equivalent), be certified by the American Board of Pediatrics (Pediatrics and Pediatric Endocrinology) and the American Board of Medical Genetics, expect to participate in fellows' training on diagnosis, treatment and molecular investigation of endocrine and genetic diseases, and have experience on cell line establishment and a variety of molecular genetic techniques, including DNA sequencing, SSCP, ddF, etc. Salary range offered \$45,000-60,000 per annum. Candidates should send a CV and research statement within 4 weeks of the publication of this advertisement, to: Dr. George P. Chrousos, MD, NIH; Bldg. 10, Room 10N262 ; 10 Center Dr. MSC 1862; Bethesda, MD 20892-1862. The NIH is an Equal Opportunity Employer.

ANALYTICAL SPECIALISTS

100 Years "Young"

Oince our inception in 1897, we have been at the forefront in the development and manufacture of human biological products and vaccines. From producing smallpox vaccine for US troops during the Spanish American War to exploring the future in immunopotentiation, we are dedicated to excellence in every phase of our operation.

Our continued commitment to innovation, research, and quality has created challenging opportunities in our Analytical Chemistry, Serology, and Sterility/

Microbiology groups.

As you contribute to our state-of-the-art Quality Control programs, you will conduct routine laboratory testing of licensed biological or vaccine products and validate test methods for new products in development. To qualify, you must be a self-starter with a Bachelor's or Master's degree in Biology, Chemistry, Microbiology, or a related science field. 2-3 years of professional laboratory experience is required.

As a member of the Rhone-Poulenc Group, we offer an attractive salary/benefits package, ongoing opportunities for continuing education and professional development, and the satisfaction of working for a leading edge company with an exceptional record of success in the global marketplace.

For consideration, forward your resume with compensation history/requirements in confidence to: Human Resources, Dept. AS, Pasteur Mérieux Connaught, P.O. Box 187, Route 611, Swiftwater, PA 18370. Only those candidates best qualified will be contacted. We are an equal opportunity employer M/F/D/V.



NATIONAL CANCER INSTITUTE NATIONAL INSTITUTES OF HEALTH, PUBLIC HEALTH SERVICE CANCER PREVENTION FELLOWSHIP PROGRAM

The Division of Cancer Prevention and Control (DCPC), NCI, is accepting applications for the Cancer Prevention Fellowship Program (CPFP). The purpose of the program is to train individuals from a multiplicity of health science disciplines in the field of cancer prevention and control. The program provides for: Master of Public Health training (at accredited one year university programs); Participation in the DCPC Cancer Prevention and Control Academic Summer Course (open to physicians and scientists interested in specialized instruction on the principles and practice of cancer prevention and control); Working at DCPC directly with individual preceptors on cancer prevention and control projects; Brief field assignments in cancer prevention and control programs at other institutions. Funding permitting, Fellows will be accepted for up to three years of training, beginning July 1, 1998. Benefits include selected relocation and travel expenses, paid federal holidays, and participatory health insurance.

ELIGIBILITY

M.D., D.D.S., or D.O. from a U.S., territorial, or Canadian Medical School. Foreign medical graduates must have current USMLE or ECFMG certification and appropriate experience, e.g., one year residency in a training program approved by the Accreditation Council for Graduate Medical Education.

OR

Ph.D. or other doctoral degree in a related discipline (epidemiology, biostatistics, and the biomedical, nutritional, public health or behavioral sciences). Foreign education must be comparable to that received in accredited U.S., territorial, or Canadian institutions.

PLUS

The applicant must be a citizen or resident alien of the United States eligible for citizenship within four years. For details and an application catalog either call, fax, e-mail, or send a postcard or letter with your name, home address, and where you heard about the program to: **Douglas L. Weed, M.D., M.P.H., Ph.D.**

Director Cancer Prevention Fellowship Program Division of Cancer Prevention and Control National Cancer Institute Executive Plaza South, Suite T-41 6130 Executive Blvd. MSC 7105 Bethesda, MD 20892-7105 Further Inquiries: Mrs. Barbara Redding Telephone (301) 496-8640 Fax (301) 402-4863 Email reddingb@dcpcepn.nci.nih.gov Deadline for receipt of applications: September 1, 1997 NIH is an Equal Opportunity Employer

GLOBAL CAREER OPPORTUNITIES

Physicists and Chemists for **Development of Organic and Polymeric Electronics**

Opticom Northern Light is currently recruiting outstanding physicists, chemists, materials scientists, and engineers for front research and development in the field of organic and polymeric materials and devices for electronic, optoelectronic, and electrochemical functions. We are search-ing for highly qualified people with a drive to perform and deliver in an international and multidisciplinary research and development organization.

As you enter in this organization at an early stage, your ambitions and views are essential to the development of the company. Candidates should preferably have a Ph.D. and a postdoctoral period in these subjects and well-developed international contacts in their research areas. The career track must show strong creativity, as well as broad understanding of sev-eral areas of these sciences. Excellent communications skills are necessary in this highly qualified group of people.

As our activities will cover the full range from chemical synthesis, materials design, electronic, optical and electrochemical devices, systems design and analysis, our openings are many. If you believe your expertise is appropriate, please let us know.

We are also looking for qualified individuals for building the information technology infrastructure for Opticom Northern Light, from communication to laboratory automation.

Your salary will be commensurate to your qualifications. A relocation package will be available, and private pension funds are part of the conditions. You may join in a share option scheme. Special tax conditions may apply to non-Swedish citizens.

Opticom Northern Light is a privately held company in Linköping, Sweden, funded by Opticom ASA of Norway. The company is now in a period of rapid growth, and expects to recruit 15 scientists in 1997. Strong ties to the University of Linköping Department of Physics exists, and the company is located close to the university in the Mjärdevi Science Park.

Linköping is a university city some 200 kilometers south of Stockholm, Sweden, with excellent communications and a broad high technology base in the airplane and electronics industries.

Please send your application, together with your CV, to: **Opticom Northern Light** Teknikringen 1E S-583 30 Linköping, Sweden You may also enter your application over Internet. Send an e-mail to Opticom Northern Light at www.epipolysteme.e.se

DNA Vaccines **Attenuated Pathogens, Recombinant Proteins**

Vaccines



Maxygen is applying proprietary gene shuffling technology to evolution of novel DNA vaccines, attenuated live vaccines and vectors and recombinant protein vaccines. There are tremendous opportunities at Maxygen for creative, dynamic individuals with proven scientific track records to contribute to important advances in vaccine technology. The Vaccine Group will generate extensive molecular diversity with genes, plasmids, vectors and viruses, using various recombination techniques in combination with low level mutagenesis and natural diversity. This diversity is screened or selected with appropriate assays and novel variants are then improved in reiterative rounds.

Molecular Evolution

Maxygen is an independent spin-off from Affymax Research Institute and GlaxoWellcome. Maxygen is a state-of-the-art technology center focused on development of evolution technology for the optimization of DNA and protein sequences. Please see our Website at WWW.MAXYGEN.COM for information and job listings. Resumes, including e-mail address to: Maxygen Inc., Attn: W. Stemmer, 3410 Central Expressway, Santa Clara, CA 95051. E-mail: pim_stemmer@qmgates.affymax.com

Science

Working On The Edge Of The World...

...can be quite a challenge. But then, that's what you're all about: Challenge. We've got one for you. Antarctic Support Associates is currently seeking a physically fit, rigorous, adventuresome person who is willing to accept the challenge:

INSTRUMENT TECHNICIAN

This position is responsible for the operation and maintenance of laboratory equipment and instruments in modern research laboratories at Palmer Station, Antarctica (1,100 sq. ft.). The laboratories support scientists from several disciplines, funded by the National Science Foundation, conducting basic and applied research in Antarctica. A full range of spare parts and accessories plus some technical support are provided to maintain the operation of a diverse inventory of equipment and analytical instruments supplied by the laboratories or the scientists, in both the laboratory and field.

A degree in a natural science emphasizing molecular biology and cellular biology, and a minimum of three years of experience working in an academic or production laboratory environment are highly desirable. Candidates must be familiar with the operation, maintenance and troubleshooting of such equipment as thermal cyclers, electrophoresis equipment, ultracentrifuges, liquid scintillation counters, spectrometers, fluorometers, and HPLCs.

Proof of U.S. citizenship is required and all applicants must be able to pass strict physical and dental exams for deployment to Antarctica for up to seven months (September, 1997, through March, 1998). Salaries are comparable to Denver Metro salaries. This a contract position. For consideration, please fax or mail a resume with a

letter of introduction no later than 27 June 1997.



Antarctic Support Associates **61 Inverness Drive East** Suite 300 Englewood, CO 80112 Fax: 303-790-9130 Attn: NU/MM FOF



There's Excitement In The Journey

We're Breaking New Ground in Research & Development

Glaxo Wellcome, one of the world's largest pharmaceutical companies, is an organization committed to fighting disease and bringing innovative medicines to patients throughout the world. To accomplish this feat, we are on a constant journey of discovery – a journey fueled by consummate professionals dedicated to significant medical advances which improve the quality of life. If you would like to share our journey while testing the limits of your own potential, join us in one of the following openings at our **Corporate Headquarters located in Research Triangle Park, N.C.**

SENIOR TOXICOLOGIST

Individual will serve as Study Director responsible for designing, conducting, and reporting on non-clinical general toxicology studies performed within our modern facility. Will also serve as Study Monitor for similar studies performed at contract facilities. As Toxicology Project Coordinator, individual will plan and coordinate drug development activities, as well as write and review regulatory submissions to international authorities. Requires a BS/BA or MS degree with previous Study Director experience or a Ph.D. with post-doctoral training and 0-3 years Study Director experience. Must be able to write quickly and fluently and thrive in a fast-paced environment. Position requires up to 25% travel. **Refer to Job #ASC3044-1 on all resumes.**

COMPUTATIONAL CHEMIST Structural Chemistry

Individual will work in close collaboration with scientists in the Medicinal Chemistry and Biological Sciences Departments, applying computational chemistry techniques and molecular modeling to drug design and discovery. Requires Ph.D. in Chemistry or Biochemistry with a minimum of 2 years relevant experience in Computational Chemistry. The ability to apply molecular mechanics, molecular dynamics, protein homology modeling and quantum mechanics to drug design and discovery problems is required, as is familiarity with biochemistry, principles of drug design, x-ray crystallography techniques, QSAR and medicinal chemistry. Candidate must have experise in the use of UNIX operating system and programming languages and possess excellent oral/written communication skills. Refer to Job #ASC3457-1 on all resumes.

SCIENTIST-TOXICOLOGY/ RESEARCH SCIENTIST-TOXICOLOGY

As a member of our Reproductive Toxicology Team, individual will conduct fetal examinations, diagnosis of fetal pathology and interpretation/reporting of results. Will perform animalrelated technical procedures; collect pre-clinical animal data and perform procedures required in reproductive toxicology study protocols. Duties will also involve performing fetal processing and examination procedures; recording data according to GLP requirements; and preparing tabulated study data and technical reports. Requires BS/BSc with a minimum of 3 years experience in pre-clinical reproductive toxicology testing, fetal pathology, general necropsy and GLP requirements. Excellent writing skills and experience in the preparation of pre-clinical technical reports also required. Attention to details, good communication/organizational skills and the ability to work in a team environment are necessary. Experience with computer data acquisition systems preferred. Refer to Job #ASC2894-1 on all resumes.

SCIENTIST

As a key member of our U.S. Genetic and Reproductive Toxicology Team, individual will design, develop and implement the operation of high-throughput compound screening assays, with emphasis on genetic toxicology and molecular biology. Duties will include conducting research regarding the validity and automation potential of high-throughput screening techniques. Requires a BS in a scientific discipline with 3 years relevant experience, or an MS with 1 year experience. Experience in laboratory automation and familiarity with molecular biology is preferred. Refer to Job #ASC3301-1 on all resumes.

In exchange for your considerable skills, we offer highly competitive salaries and an excellent benefits package. In addition, you'll enjoy the energy and excitement of working in Research Triangle Park, the world's largest planned research center. Our beautiful North Carolina location offers a vast array of cultural, recreational, and educational opportunities. For confidential consideration, send your resume, which must include position title, job # and salary history to: Human Resources Department, Glaxo Wellcome, P. O. Box 13398, Research Triangle Park, NC 27709. (No Phone Calls or Agency Referrals, Please). An Equal Opportunity Employer M/F/D/V.



NATIONAL ASTRONOMICAL OBSERVATORY OF JAPAN (NAOJ)

Seeking qualified candidates for Two Regular, Full-Time, RCUH Non-Civil Service positions, located in Hilo, Hawaii. Limited-term 3-year appointment (possibility of extension) by Research Corporation of the University of Hawaii (RCUH) with Subaru Telescope Project, National Astronomical Observatory of Japan. Continuation is dependent upon program/operational needs, satisfactory work performance, and availability of funds.

POSTDOCTORAL FELLOW (Scientific) - ID# 175

Duties include: Pursue a program of astronomical research, publish and present results at conferences. Participate actively in laboratory and field tests of the Subaru telescope and its instruments and support facilities. Substantial work will be required with a significant amount of time being spent at the telescope site (at a high altitude, 14,000 feet). The successful candidate can expect to be transferred to the operations team of the Subaru telescope after its completion expected in the year 2000. Qualifications: Candidate should have a recent Ph.D. in astronomy or closely related field. Experience observing at optical and/or infrared wavelengths including use of two dimensional detector arrays. Experience using astronomical software, including packages for instrument control and astronomical data reduction. Ability to undertake independent program of observational astronomical research. Good written and oral communication skills in English. Possess a valid driver's license and ability to operate four wheel drive vehicles. Must pass a high altitude physical examination and work at a high altitude (14,000 feet).

POSTDOCTORAL FELLOW SCIENTIFIC (Public Relation) - ID# 176

The successful candidate will be expected to carry out scientific research and also is expected to spend minimum 50% of time in estab-lishing the public relation programs of the Subaru Telescope at Hilo, Hawaii. Participating in laboratory and field tests of the Subaru telescope and its instruments is encouraged. Some of the work will require a significant amount of time being spent at the telescope site (at a high altitude, 14,000 feet). The successful candidate can expect to be transferred to the operations team of the Subaru telescope after its completion expected in the year 2000. Qualifications: Candidate should have a recent Ph.D. in astronomy or closely related field. Experience observing at optical and/or infrared wavelengths including use of two dimensional detector arrays. Experience using astro-nomical software, including packages for instrument control and astronomical data reduction. Ability to undertake independent program of observational astronomical research. Good written and oral communication skills in English. Possess a valid driver's license and ability to operate four wheel drive vehicles. Must pass a high altitude physical examination and work at a high altitude (14,000 feet).

Application Requirements: Send cover letter (note ID#) with narrative on your qualifications for the position, a curriculum vitae, salary history, copy(ies) of diploma(s) and/or certificate(s) used to qualify for the position, and an outline of proposed research including its relation, if any, to ongoing research at NAOJ Subaru Project to: Director of Human Resources, Research Corporation of the University of Hawaii, 2530 Dole Street, Sakamaki Hall D-100, Honolulu, HI 96822. Candidates should also request that confidential letters of recommendation be sent directly to us by three scientists who are familiar with the applicant's work. Complete applications and letters of reference should be received by August 1, 1997.

The Research Corporation of the University of Hawaii



FACULTY POSITION Cell and Molecular Biology

The Department of Biology at Carthage College invites applications for a renewable position in cell and molecular biology. Carthage College is a four-year liberal arts college located on the shore of Lake Michigan midway between Chicago and Milwaukee. The Department is well equipped for state of the art teaching and research. The successful candidate will have a strong background in experimental biology and a commitment to teaching at the undergraduate level. Responsibilities will require teaching molecular techniques for the solution of problems in cell biology and promotion of student involvement in research projects. This position requires a willingness to pursue external funding. Rank will be determined by qualifications of the successful applicant. Submit current curriculum vitae. transcripts, and three letters of reference to: Dr. Mark R. Snavely, Chairperson, Division of Natural Sciences, Carthage College, Kenosha, WI 53140. You may fax your application materials to Dr. Snavely at 414-551-6208, or send via email to snavely@carthage.edu.

Files will be reviewed until the position is filled. The start date for this position is August 15, 1997.

Unjumbling the Genome

Bioinformatics at CuraGen provides enormous opportunity to merge biological and computational genomics for a comprehensive path from disease to gene to therapeutics.

Bioinformatics

Research Scientist: 4+ years molecular biology experience finding and characterizing novel genes, using and developing computational tools and databases.

Research Scientist: Experience with sequence clustering/assembly/homology, mapping/ linkage, biological software development.

Research Scientist: Computational/theoretical experience, authorship of MD/MC, protein homology, or related codes.

Please send a CV and 3 letters of reference to apply. CuraGen's benefits include opportunities for equity participation in the fastest-growing private genomics firm. EOE/AA. Visit our homepage for a complete list of positions:

www.curagen.com



CuraGen Corporation 555 Long Wharf Drive, 11th Floor New Haven, CT 06511 Fax: (203)401-3331 Email: jobs@curagen.com

DISCOVER A WORLD OF OPPORTUNITY.

At SmithKline Beecham R & D individuals are challenged. Ideas flow. Creativity abounds. The result — a powerhouse of discovery comprised of some of the most gifted scientists in the world. We are among the world leaders in Research & Development and we continue to break new ground in the development of innovative products. Through the continuing efforts of more than 4,000 dedicated R&D scientists and support personnel, we continue to excel beyond all expectations. We currently have opportunities for individuals with the same high standards and visions shared by all our employees.

Discovery Research Group

Postdoctoral Candidate

The selected candidate will conduct research in microbial systems that focuses on the translational fidelity of heterologous protein synthesis; handle the construction of vectors necessary to test hypotheses for translational fidelity; conduct small-scale purification schemes to isolate protein of interest; conduct statistically designed research studies when appropriate; identify new techniques and adapt them to relevant research and contribute ideas within own area of expertise.

A PhD in Microbiology, Molecular Biology or Biochemistry is necessary. This position requires candidates who will take a leading role in the design and conduct of experiments; actively seek new methodology; initiate new experimental approaches within an agreed strategy on basis of experience and knowledge of scientific literature; and work well in a team-oriented laboratory. **Refer to Job Code K7-0296**.

Department of Comparative Genetics

As a leader in genome-based pharmaceutical research and development, one of our primary research tools is a large database of human expressed gene sequences. The Department of Comparative Genetics is a part of a new initiative in functional genomics, and includes a yeast genetics group which is using database analyses and *Saccharomyces cerevisiae* molecular genetics to identify, clone, and investigate the biological functions of novel human proteins.

Postdoctoral Fellow - Yeast Genetics

The Department of Comparative Genetics has an immediate opening for a postdoctoral fellow to identify and characterize the functions of novel yeast genes and their human counterparts, with an emphasis on cell-surface receptors and mediators of intracellular signaling. Minimum qualifications include a PhD in Genetics, Microbiology or related discipline, and a strong background in recombinant DNA techniques, classical and recombinant yeast genetics, and protein biochemistry; bioinformatics experience is preferred. The candidate should possess a proven record of scientific achievement as evidenced by publications in leading scientific journals. SmithKline Beecham postdoctoral fellows are encouraged to publish their research findings. Refer to Job Code H7-0350.

Scientists - Yeast Genetics

The Department of Comparative Genetics has two openings for Scientists. The successful candidates will use bioinformatics and yeast genetic systems to study novel human proteins as potential drug targets, and work as part of a multidisciplinary team of scientists toward an understanding of biological function and relevance to human disease. Minimum qualifications include a BS or MS degree in Genetics or related discipline with 1-3 years of experience in molecular biology and protein bio-chemistry. Experience with yeast genetics and bioinformatics is preferred. Refer to Job Code H7-0347.

Located in a state-of-the-art research facility in suburban Philadelphia, SmithKline Beecham offers a competitive compensation/benefits package and a stimulating working environment in which to grow and excel. For confidential consideration, send resume and salary requirements to: SmithKline Beecham Pharmaceuticals, Job Code _____, P.O. Box 2645, Bala Cynwyd, PA 19004. *Indicating Job Code is essential*. For more information on SmithKline Beecham, visit our Web site at http://www.sb.com. We are an Equal Opportunity Employer, M/F/D/V.



Challenging the natural limits.

DIRECTOR, DEVELOPMENTAL BIOLOGY Children's Hospital Medical Center, University of Cincinnati

The Children's Hospital Medical Center invites applications for the position of Director of the Division of Developmental Biology and the William K. Schubert, M.D., Professor of Pediatrics Endowed Chair. The Division currently consists of 10 Ph.D. faculty with a primary focus an mammalian development. Substantial resources will be made available to the new Director, both for his/her personal program and expansion of the Division. The Director will lead this expansion, as well as participate in a well-established multidisciplinary graduate program in Developmental Biology. Candidates will have M.D. and/or Ph.D. degrees and a nationally and internationally recognized research program dealing with broad aspects of developmental biology. The academic appointment will be at the level of Professor. Outstanding support facilities, including new research laboratories, are available to the new Director to aid in the Division's planned expansion. State-ofthe-art facilities include fully staffed transgenic and gene targeting cores. as well as the usual central support infrastructure needed to carry out molecular, genetic, and structural studies on multiple systems. Applications should include a letter of interest and curriculum vitae; nominations are also strongly encouraged. Applications should be sent to: Jeffrey Robbins, Ph.D., Director, Division of Molecular Cardiovascular Biology, Children's Hospital Medical Center, Children's Hospital Research Foundation, TCHRF, Room 3057, 3333 Burnet Avenue, Cincinnati, OH 45229-3039.

In consideration of our children the Medical Center is committed to a smoke-free workplace. Children's Hospital Medical Center conducts pre-employment drug screening as part of a comprehensive program to maintain a drug-free workplace. *Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*





GLOBAL CAREER OPPORTUNITIES

AMERICAN UNIVERSITY OF BEIRUT

FACULTY OF MEDICINE AND MEDICAL CENTER

The Faculty of Medicine and Medical Center of the American University of Beirut, Beirut, Lebanon, is seeking Academic Staff at the level of Assistant Professor, Associate, or Professor in Laboratory Medicine. Applicants and nominees should have:

- Degree requirement: M.D., Ph.D. or M.D./Ph.D. with at least 4 years of postdoctoral training in human molecular genetics.
- Strong knowledge of medical and molecular genetics with expertise in modern molecular biology and mutation detection techniques. The applicant would ideally be a current Director of a Molecular Diagnostics laboratory or trained to assume such directorship.

The role of the Director would be to set up and interpret all diagnostic and prognostic studies that require the above techniques and their applications to genetic disorders, oncology, and microbiology. In addition, the Director is expected to train and daily supervise medical technologists, graduate students, and fellows to implement these assays on a routine and research basis. The Director will also be responsible to set up, implement and continuously oversee quality control and quality assurance programs for the clinical molecular diagnosis laboratory.

For confidential consideration, please submit your curriculum vitae, salary requirements, and names and addresses of references by September 31, 1997, to:

Samir Najjar, M.D. Dean, Faculty of Medicine American University of Beirut 850 Third Avenue, 18th Floor New York, NY 10022-6297 email: snajjar@aub.edu.lb

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

U.S. passports are presently invalid for travel to, in, or through Lebanon, and for residence in Lebanon, by order of the Department of State, and therefore, applications from individuals who would travel to or reside in Lebanon on a U.S. passport cannot at this time be considered.

GLOBAL CAREER OPPORTUNITIES



The 1998 AMRAD Post-Doctoral Awards

As part of AMRAD's mission to support and apply the excellence of Australian biomedical research, AMRAD established the AMRAD Post-Doctoral Awards. These awards are designed to assist in the career development of young Australian scientists of exceptional promise.

Up to four awards, each of \$20,000 plus a commemorative medallion, will be granted in 1998. These awards will be granted competitively for research and travel, to supplement other fellowships or salary support. Applicants must:

- hold a PhD degree (or the equivalent) with no more that five years' Post-Doctoral training.
- have undertaken PhD or Post-Doctoral training overseas.
- be returning to a full-time research position in the biomedical area (or allied fields), in an approved Australian research organisation, between 1 July 1997 and 30 June 1998.
- be Australian citizens or permanent residents of Australia.

For further information and an application form, please contact: The Research Operations Manager AMRAD Operations Pty Ltd Private Box 29 Richmond VIC 3121, Australia Telephone: (+61 3) 9208 4000 Fax: (+61 3) 9208 4065 Email: postdoc@amrad.com.au

Closing date: 13 September 1997



Invasion Biologist

(Introduction vectors/pest management)

CSIRO Division of Marine Research

Centre for Research on Introduced Marine Pests

\$48K to \$65K + Superannuation

Reference Number MRH97/12

The CSIRO Division of Marine Research is Australia's largest marine research group. The Division undertakes a diverse range of strategic and tactical research in support of maritime industries and the management of Australia's coastal environment and ocean territory. In 1994 the Division established the Centre for Research on Introduced Marine Pests (CRIMP) to provide a national focus for research aimed at assessing and minimising the impacts of introduced pest species in Australian waters.

We are seeking to fill a key position in the Centre by appointing an enthusiastic and innovative research scientist with skills in the dynamics and management of marine pest populations. An immediate task will be to lead existing projects and develop new projects aimed at assessing and managing the introduction of exotic species to Australian waters by shipping and other vectors. As part of a team of marine population ecologists and parasitologists, you will also be actively involved in developing and leading research on pest management strategies and the implementation of pest control programs in the marine environment. It is expected that in the long term the majority of your work will be in this area. As a member of the Centre you will work closely with other CSIRO research staff involved in empirical and theoretical studies on invasion processes, ecological and economic risk assessment, impacts assessment, marine parasitology, and the management of exotic marine species.

You will have a PhD or equivalent, a record of high level scientific achievement, research experience in community and population dynamics of marine plankton and/or benthos, and demonstrated research capabilities directly applicable to the management of marine pest populations. It is desirable that you also have research experience with introduced species problems, a good understanding of invasion theory and a background in the ecology of marine parasites or pathogens.

The position is fully (12 month) funded and comes with experienced research support staff and a significant operating budget. You will, in collaboration with other Centre staff, liaise with external funding agencies to maintain an established external funding stream for this research.

Location: CSIRO Marine Laboratories, Hobart, Tasmania. The laboratories are Australia's largest centre for marine research, housing over 250 staff involved in oceanographic, fisheries and marine ecological studies.

Tenure: 3 years with the possibility of the position being made indefinite.

Applications should quote Reference Number MRH97/12 and be framed against the selection criteria which can be obtained from our Receptionist (telephone +61 (03) 6232 5222; fax +61 (03) 6232 5000; e-mail anne.pirrone@marine.csiro.au). It should provide details of your qualifications, work experience, and the names of at least two referees. For further information contact Dr Chad Hewitt (ph +61 (03) 6232 5102; fax +61 (03) 6232 5485; e-mail chad.hewitt@marine.csiro.au).

Applications should be addressed to: The Personnel Officer, CSIRO Division of Marine Research, GPO Box 1538, Hobart, Tasmania, Australia 7001 by 4 July 1997.





THE UNIVERSITY OF GENEVA (SWITZERLAND) FACULTY OF MEDICINE

Applications are invited for a position of:

ADJUNCT PROFESSOR FOR BIOLOGY OF AGING

The Division of Geriatrics is seeking a head for its laboratory of biology of aging with clinical responsibility.

The elected candidate will be in charge or pre- and postgraduate teaching and will be expected to conduct a clinical research programme.

Good knowledge of the French language is required.

The applicants should be M.D.

Please send letter of interest, curriculum vitae and list of publications before July 31,1997 to:

The Dean of the Faculty of Medicine Centre Medical Universitaire **Rue Michel-Servet 1** CH-1211 Geneva 4 where further information can be obtained. Women are encouraged to apply.



The Laboratory of Behavioral Biology and Functional Toxicology is situated at the Institute of Toxicology, Swiss Federal Institute of Technology, near Zurich, Switzerland.

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

The Laboratory is concerned with research into brain mechanisms of behavior and the development of animal models for psychiatric and neurological disorders. A number of different techniques are currently being employed in the laboratory to address specific issues and include: classical and operant conditioning procedures, drug self-administration, drug discrimination, memory and cognition models, direct intracerebral manipulations, in vivo microdialysis, and neuroanatomical techniques, including immunocytochemistry, radioligand binding, and tract tracing at light and electron microscopic levels.

The Laboratory is looking for Researchers at all levels (doctoral students, postdoctoral scientists, and staff scientists) in the field of Behavioral Neuroscience.

The salary will depend on age and experience. The starting date is negotiable.

Please send a letter of application and a curriculum vitae, including the names and addresses of three references, to: Laboratory of Behavioral Biology, Institute of Toxicology, Schorenstrasse 16, CH-8603 Schwerzenbach, Switzerland. Phone +41-1-825-7416, Fax +41-1-825-7417.

Visit our Web site: http://www.toxi.ethz.ch/bbft/bbft.html

POSITIONS OPEN

POSTDOCTORAL POSITIONS available immediately to study molecular mechanisms of apoptosis. Experience in molecular biology, cellular immunology, or transgenic animals is required. Send curriculum vitae and names of three references to: Dr. Paul Andersson, Division of Tumor Immunology, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115. Telephone: 617-632-3751; FAX: 617-632-4569; Email: paul_anderson@macmailgw.dfci. harvard.edu.

MOUNT SINAI MEDICAL CENTER POSTDOCTORAL POSITIONS IN STRUCTURAL BIOLOGY AND BIOCHEMISTRY

Two postdoctoral positions are available for highly motivated individuals to study the structure and function of molecules involved in cell adhesion and innate immunity. Candidates should have experience in either protein biochemistry or X-ray crystallography. Our laboratory is equipped with state-of-the-art facilities for structural biology research focused on X-ray crystallography.

Please send the names of three references and curriculum vitae to: Dr. Lawrence Shapiro, Structural Biology Program, Mount Sinai School of Medicine, Box 1677, 1425 Madison Avenue, New York, NY 10029. FAX: 212-849-2456. Email: shapiro@convex. hhml.columbia.edu.

POSTDOCTORAL POSITION IN MOLECULAR VIROLOGY

A postdoctoral position in virology is immediately available at the University of Rochester Cancer Center. The project is within the areas of molecular pathogenesis of HIV-1 and gene therapy. The applicant should be familiar with tissue culture, protein and molecular biology techniques, and immunological assays. Salary will be based on NIH postdoctoral scale and prior experience.

Applications should include curriculum vitae and the names and addresses of three references, and be mailed to: Dr. Vicente Planelles, University of Rochester Cancer Center, 601 Elmwood Avenue, Box 704, Rochester, NY 14642. Telephone: 716-273-4474. Email: planelles@medinfo.rochester.edu.

POSTDOCTORAL POSITION UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER

POSTDOCTORAL position available immediately for a Ph.D. to investigate HIV-induced neuronal cell loss. Preference will be given to candidates with a background in neuropathology or immunology. Necessary skills include receptor/ligand characterization, protein purification, molecular biology, and immunochemistry. Send letter of interest, curriculum vitae, and the names and addresses of three references to: Dr. Paula Grammas, Department of Pathology, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, OK 73190.

POSTDOCTORAL POSITION CATHEPSIN GENE EXPRESSION

Position available to study the regulation of cathepsin gene expression at the Center for Gerontological Research. NIH-funded position for three years; **Dr. Bruce Troen**, principal investigator. Must have experience in modern molecular biology techniques and equipment and significant background in tissue culture methods. Salary commensurate with training and experience. Ph.D. required. Send résumés to: Anne Kalbach, Associate **Director**, CGR, Allegheny University of the Health Sciences, 2900 Queen Lane, Philadelphia, PA 19129. *Equal Opportunity Employer.*

EAST TENNESSEE STATE UNIVERSITY

POSTDOCTORAL POSITION available immediately to study quantal transmitter release in isolated tissues. Experience in electrophysiology is highly desirable. Appointment may be up to three years, starting at \$24,030+ benefits, in a department newly organized around research. Send curriculum vitae and names of three references to: M. D. Myamoto, Department of Pharmacology, Box 70,577, East Tennessee University College of Medicine, Johnson City, TN 37614-0577. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION YALE UNIVERSITY SCHOOL OF MEDICINE

Our laboratory is interested in understanding how small RNA molecules are folded, processed, assembled with proteins, and sorted within cells. Our focus is on RNA-binding proteins that appear to play critical roles in these processes (see *Cell*, **89**, 393–402; *Genes & Der.*, **8**:2891–2903; *J. Cell Biol.*, **129**, 1181–1193). Candidates should possess a recent Ph.D. degree and have experience in biochemistry, genetics or molecular biology. Please send curriculum vitae, a brief summary of research experience, and the names of three references to: **Dr. Sandra L. Wolin, Department of Cell Biology, Yale University School of Medicine, 295 Congress Avenue, New Haven, CT 06536**. *Equal Opportunity Employer.*

POSTDOCTORAL/RESEARCH POSITIONS: H.M.S. Faculty Appointment. Laboratory for the Study of Skeletal Disorders and Rehabilitation, Children's Hospital Boston, and Harvard Medical School, Positions to Investigate: 1) regulatory mechanisms of skeletal tissue specific gene expression; 2) tumor biology of malignancies found in skeletal tissues. Two years of experience in molecular biology and *in sim* hybridization needed and/ or experience in virology and *in vitro* gene expression. Ability to work independently and with other members of the laboratory. Potential for further faculty development. Send curriculum vitae, copies of relevant publications, and three references to: **Dr. Louis C. Gerstenfeld, Laboratory for the Study of Skeletal Disorders and Rehabilitation, Enders Building, Children's Hospital, 300 Longwood Avenue, Boston, MA 02115.**

POSTDOCTORAL POSITION available for research on the distribution and role of ion channels in developing and demyelinated axons. We seek a molecular biologist to join our group working on mechanisms of glial-axonal communication involved in myelination and in ion channel clustering at nodes of Ranvier. Studies include normal development and remyelination following inflammatory disease. The applicant should have a Ph.D. and broad experience in molecular techniques. Send a curriculum vitae and names of three references to: Dr. Peter Shrager, Department of Neurobiology and Anatomy, Box 603, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642. FAX: 716-442-8766. Email: pshr@db4.cc.rochester.edu. Affinnative Adtion/Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately to study radiation-induced transcriptional activation and signal transduction mechanisms using antisense technology. We are applying adenovirus-mediated gene delivery to study nuclear protein kinasc/phosphatase-mediated events. Experience in molecular biology essential, tissue culture and virology preferable. Please send curriculum vitae and names of three references to: Kristoffer Valerie, Department of Radiation Oncology, Box 980058, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298. Email: kvalerie@gems.vcu.edu. Website: http://views.vcu.edu/mcvro/.

POSTDOCTORAL POSITION available immediately to study chaperonin-mediated folding and assembly of mitochondrial macromolecular structures. Prefer recent Ph.D. or graduating degree candidates with experience in using physical biochemistry to study protein folding or protein-protein interactions. Send curriculum vitae and names of three references to: Dr. David T. Chuang, Department of Biochemistry, University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9038. FAX: 214-648-8856; Email: chuang01@utsw.swmed.edu. An Equal Opportunity Employer.

POSTDOCTORAL POSITION available to study role of carbohydrates (glycoproteins, mucins and glycolipids) as human tumor antigens using a combination of immunologic, biochemical, and molecular approaches. Candidates should have a background in carbohydrate biochemistry or in molecular biology. Send curriculum vitae and names of three references to: Kenneth O. Lloyd, Ph.D., Immunology Program, Sloan-Kettering Institute, 1275 York Avenue, New York, NY 10021. Memorial Sloan-Kettering Cancer Center is an Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITION

Position available to study hair follicle and epithelial stem cell biology. Candidate must have a Ph.D. and/or M.D., and must be a U.S. ditzen or posses a green and. Send curriculum vitae, including description of research experience and three references to: George Cotsarelis, M.D., Department of Dermatology, University of Pennsylvania Health System, M8 Stellar Chance Labs, 422 Curie Boulevard, Philadelphia, PA 19104. University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL RESEARCH FELLOW

Position available immediately for highly motivated individual for research on ehrlichiosis, a newly emerging infectious disease. Applicants must have skills and experience in aseptic cell culture and knowledge of molecular biology procedures and Ph.D. in biologic sciences or higher degree. Excellent compensation package including competitive salary and comprehensive benefits.

Interested candidates are invited to send résumé, career goals, and three names of references (including name, address and telephone number) to: David H. Walker, M.D., Department of Pathology, University of Texas Medical Branch, 301 University Boulevard, Galveston, TX 77555-0609. FAX: 409-772-2500. Email: dwalker@mspo3.med.utmb.edu. UTMB is an Equal Opportunity/Affinative Action Employer. Minorities/Females/Disabled/Vetrans.

POSTDOCTORAL POSITION UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER

A postdoctoral position is available immediately for applicants interested in protein or nucleic acid engineering and in using engineered macromolecules to study native function. Successful applicants will have the opportunity to use a wide range of techniques in a stimulating environment.

Please send curriculum vitae, a brief statement of relevant research interests, and three letters of reference to: Dr. David Corey, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-9050. Email: corey@howie.swmed. edu. Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP POSITIONS— YALE UNIVERSITY SCHOOL OF MEDICINE. Ph.D.'s or M.D.'s. Spectrum of basic science disciplines, especially molecular and cellular neurobiology. Special interests include biologic and physiologic mechanisms of cell injury. Expertise in either electrophysiology, molecular genetics, or molecular biology is desirable. *Must be U.S. citizens/permanent residents*. Please send curriculum vitae to: Gabriel G. Haddad, M.D., Department of Pediatrics, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06520; FAX: 203-785-6337 or Email: gabriel.haddad@yale.edu. Yale University is an Equal Opportunity/Affinnative Action Employer.

POSTDOCTORAL FELLOWSHIP IN CHROMATIN REMODELING

A postdoctoral position is available immediately to study heat shock factor-mediated chromatin remodeling, *in vino* and *in vitro* (*EMBO J.*, **12**:3931-3935, 1993; *MCB*, 16:7004-7017, 1996), in an NIH-funded project. Recent Ph.D. in molecular biology or genetics is required. Send curriculum vitae and the names of three references (including Email addresses) to: Dr. David S. Gross, Department of Biochemistry and Molecular Biology, Louisiana State University Medical Center, Shreveport, LA 71130-3932; Email: dgross@lsumc.edu. Affinnative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIPS

Postdoctoral positions (available July 1997 or later) to study either 1) apoptosis in distal lung epithelium or 2) regulation of extracellular matrix using techniques of both cellular and molecular biology. *Pennaneut residency or U.S. ditzenship required*. Please send curriculum vitae and list of three references to: Ronald H. Goldstein, M.D., The Pulmonary Center, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118. FAX: 617-536-8093.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

Opening for a postdoctoral research associate studying the mucosal immunology of SIV and SHIV infection in rhesus macaques. Position will extend our studies on infection in macaques (Trivedi et al., J. Virol., 70:6876-6883, 1996; and Scharko et al., Proc. Natl. Acad. Sci. (USA), 93:6425-6430, 1996) and evaluate alterations in cell trafficking, immunoregulation and cytotoxicity after mucosal inoculation with attenuated or virulent virus strains. The position is for *in vitro* studies in Dr. Pauza's Medical School laboratories. All animal components are performed by the Immunology and Virology Core Laboratory at the Primate Center. Experience required in cellular immunology and immunoregulation. Knowledge of retrovirology helpful but not essential. Projects will also involve novel approaches to vaccine development and related basic studies on primate mucosal immune responses.

ed basic studies on primate mucosal immune responses. Contact: Prof. C. David Pauza at Email: cdpauza@ facstaff.wisc.edu or FAX: 608-262-9148 by June 30, 1997 to ensure consideration. The University of Wisconsin is an Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately in the Synaptic Mechanisms Section of the National Institute of Neurological Diseases and Stroke intramural program. The laboratory studies ion currents and transmitter release in vertebrate synapses with an emphasis on the modulation of presynaptic calcium channels, the molecular basis of transmitter release and the ultrastructure of the transmitter release face. The fellows will address these questions using techniques that range from patch clamp, molecular biology, biochemistry, and fluorescence microscopy to electron microscopy, and must have a strong background in cellular neurobiology and/or electrophysiology. Visit us at http://intra.ninds.nih.gov/ sms/index.html then send a curriculum vitae, three letters of reference, a letter indicating your interests and long-term goals to: E. F. Stanley, SMS, NINDS, Building 36, Room 5A25, NIH, Bethesda, MD 20892. For position information and qualification requirements con-tact: Ms. Christine Steyer, 301-496-6334. NINDS is an Equal Opportunity Employer.

POSTDOCTORAL POSITION IN TRANSPLANTATION IMMUNOLOGY

Research in experimental transplantation models, human bone marrow transplantation, and human melanoma. Studies focus on: 1) cytokine regulation of allograft rejection and tolerance induction, 2) gene transfer of immunosuppressive agents to modulate allograft-induced responses, 3) regulatory and effector mechanisms in chronic allograft rejection, and 4) gene transfer strategies aimed at enhancing the anti-tumor immune response. Opportunity to bridge basic immunology research with clinical science. Ph.D. required, salary negotiable. Send curriculum vitae and names and telephone numbers of three references to: D. Keith Bishop, Ph.D., Transplant Immunology Research, A560 MSRB II, Box 0686, University of Michigan School of Medicine, Ann Arbor, MI 48109.

POSTDOCTORAL FELLOWS

Positions are available in a multidisciplinary training program to study regulation of motility and contractility in smooth and nonmuscle cells. Biophysical, biochemical, cell biological, recombinant DNA, digital imaging, and muscle physiology techniques will be used to examine the regulation and functions of cytoskeletal proteins in relation to a second messenger pathways. Principal investigators include James T. Stull, Kristine Kamm, Kate Luby-Phelps, and Helen Yin. Please address inquiries to: Kate Luby-Phelps, Ph.D., Department of Physiology, University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9040; Telephone: 214-648-2190; FAX: 214-648-8685. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITIONS available to study cytoskeletal protein 4.1. Multiple protein 4.1 isoforms are generated from a single genomic locus by several alternative splicing events leading to the inclusion or deletion of internal exons (*Genomics*, **39**:289-302, 1997). Studies will focus on the structure-function relationships of protein 4.1 isoforms and the molecular mechanisms regulating the alternative splicing of protein 4.1. Please send curriculum vitae to: Edward J. Benz, Jr., M.D., 1033 Ross Research Building, Department of Medicine, Johns Hopkins University, Baltimore, MD 21205. Email: schuang@welchlink.welch.jhu.edu.

POSITIONS OPEN

NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM Neurogenetics/Primate Unit

Seeking postdoctoral fellow to work on a joint project assessing genetic influences on behaviors related to serotonin function/malfunction. Research includes genotyping rhesus macaques for informative polymorphic DNA markers, assessing paternities and male reproductive success, and correlating differential reproductive success with individual differences in CNS serotonin function and psychobiological mechanisms. Information: higlev@lcc.nichd.nih.gov

Requirements: Less than five years of postdoctoral experience, expertise in population genetics and laboratory techniques, and willingness to work as a team member while developing an independent research program. U.S. citizen or resident alien. Submit: Curriculum vitae, statement of research

interests, three letters of reference. By: 18 July 1997

To: Kathleen Hanratty, NIAAA Personnel, NIH 31/1B58, 31 Center Drive MSC 2088, Bethesda, MD 20892-2088 An Equal Opportunity Employer.

POSTDOCTORAL POSITION/ RESEARCH ASSOCIATE

Position available to study neural cell adhesion molecules associated with synapse formation. Preference will be given to candidates with experience in ultracryo-section preparation, EM immunocytochemistry, and CNS organotypic tissue culture. This is a non-tenure stream, full-time position. Salary is consistent with NIH guidelines (minimum annual salary is \$20,292). Deadline for application is August 1, 1997. Candidates should send cover letter, curriculum vitae, and letters of reference to: Dr. Carl Lagenaur, Department of Neurobiology, University of Pittsburgh, Pittsburgh, PA 15261. The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.

CONFERENCE

THERAPEUTIC ANTIBODY TECH-NOLOGY 97; Sept. 21–24, 1997; Holiday Inn-Union Square, San Francisco; Organizers: J. Larrick, D. Burton. Sponsor: Palo Alto Institute of Molecular Medicine, 2462 Wyandotte Street, Mountain View, CA 94043. Telephone: 415-694-4996; Fax: 415-694-7717; Email: paimm@netgate.net; See SCIENCE May 2, 1997 for speakers.

COMPUTER MARKETPLACE



Circle No. 34 on Readers' Service Card





MACROMOLECULAR RESOURCES Oligonucleotides Peptides Mass Spec DNA Sequencing Protein Sequencing \$30/analysis \$30/cycle

Protein Sequencing \$30/cycle TEL: 1~800-491-0424 http://mm.t.mb.colostate.adu Warondecular Resources supports the efficiency research and public service missions of Colorado Sale University DNA EXPRESS X

Circle No. 33 on Readers' Service Card

| 14 C | 50% (MEVA | OFF: FPP | GGPP, | ³ Н |
|---------|---------------|------------------------------------------------------------|---------|----------------------|
| CALL FO | OR OUR | CUSTOM C TRITIUM | | THESIS, G SERVICE |
| - 11624 | Rowling (| adiolabele Green Dr, St I 1-4545 Fa arc-inc.com I | ouis MO | 63146 |

Circle No. 51 on Readers' Service Card



Circle No. 2 on Readers' Service Card



Circle No. 24 on Readers' Service Card



Circle No. 36 on Readers' Service Card



Circle No. 12 on Readers' Service Card



Circle No. 5 on Readers' Service Card

SCIENCE • VOL. 276 • 13 JUNE 1997 • www.sciencemag.org

| | MARKETPLACE |
|---|---------------------------------------------------------------------------------------------------------------|
| 1 | EASY WEB ORDERING |
| | biosyn@onramp.net |
| | |
| | SET UP 50 nmole Full QC |
| | 65 Construction Guaranteed Quality Just order > 400 bases at the same time |
| | FREE MASS SPEC |
| | |
| | 10-20 mgs 15 residues 15 residues Shipped in 5 days /residue |
| | ANTIPEPTIDES ANTIBODY PRODUCTION SERVICES & MORE |
| | BIO SYNTHESIS |
| | TEL: 800-227-0627 FAX: 972-420-0442 |
| | Circle No. 9 on Readers' Service Card |
|] | Superior Supports for DNA * Peptides * SPOS |
| | Solid Phase |
| | SCIENCE 40 Mark Drive, San Rafael, CA |
| | A division of Biosearch Technologies, Inc . |
| | The Leader in Solid Phase Chemistry 800-GENOME1 www.solidphase.com |
| | Circle No. 76 on Readers' Service Card |
| | Custom Peptides |
| | Buy 5 get one FREE |
| | (From \$9/residue) 10-30mg Unpurified 8-30 residues |
| | Mass spec included • Some restrictions may apply. Please call for details |
| | CHIRON TECHNOLOGIES US: West Coast Tel: 800 644 1866 Fax: 800 655 1866 |
| | US: East Coast Tel: 800 633 8161 Fax: 800 424 3970 International Tel: +61 3 9565 1111 Fax: +61 3 9565 1199 |
| | Europe Tel: +33 141 38 9400 Fax: +33 141 38 9409 Circle No. 37 on Readers' Service Card |
| - | DNA Sequencing |
| | as low as \$40/run |
| | Single & Double Stranded DNA Plasmid or PCR DNA |
| | Fast Turn Around 1-800-OLIGOS-1 AA-CCAA |
| | http://www.ana-gen.com Ane-den Technologies.inc. Circle No. 26 on Readers' Service Card |
| | |
| 1 | |
| | Express Peptides |
| | Express Peptides 15-40 mg in 5 days \$18 per residue |
| | 15-40 mg in 5 days |

Circle No. 6 on Readers' Service Card

"Good morning, Gary. Did that last set of primers work OK?"

"Well, not exactly."

"You did order them from Midland, didn't you?"

"No, sir, not exactly."

"Did the molecular weights agree with the calculated values?"

"Um, well, not exactly."

"You did check the molecular weights, didn't you?"

"No, not exactly."

"You can compare calculated AND measured molecular weights, yes?"

"No, sir, not exactly."

"So, did we save any money on these primers?"

"I guess not....not exactly."

Midland makes primers and checks the molecular weight of every single primer. With a mass spectrometer. The calculated and measured values must agree to within 0.2% or the primer is resynthesized. So whether you order a single primer or hundreds of them at a time, you get primers that work.

Every time.

Exactly.

The Midland Certified Reagent Company is centrally located at 3112-A West Cuthbert Avenue in Midland, Texas. We welcome your technical and pricing inquiries at 800-247-8766. Contact us by FAX at 915-694-2387. Our e-mail address is info@oligos.com and our complete catalog is online at http://www.mcrc.com.

Antigen Affinity-purified polyclonal antibodies

HUMAN

| B7-2 | IL-1α | IP-10 |
|-----------------|----------|--------------|
| CD4 | IL-1β | LIF R |
| CD28 | IL-1ra | LAP (TGF-β1) |
| CNTF | IL-1 RII | MIF |
| $CNTF\;R\alpha$ | IL-2 | MIP-1α |
| Eotaxin | IL-2 Rα | MIP-1β |
| FGF basic | IL-2 Rβ | MK |
| FGF-5 | IL-2 Ry | OSM |
| FGF-7 | IL-3 | PDGF-AA |
| FGF-9 | IL-4 | PDGF-BB |
| Flt-3 Ligand | IL-4 R | PDGF Rα |
| G-CSF | IL-5 | PIGF |
| G-CSF R | IL-5 Rα | PTN |
| GM-CSF | IL-6 | RANTES |
| sgp 130 | IL-6 R | SCF |
| HB-EGF | IL-7 R | SDF-1/PBSF |
| HCC-1 | IL-8 | TGF-β1 |
| HRG-α | IL-10 | TGF-β RII |
| 1-309 | IL-10 R | TGF-β RIII |
| IFN-γ | IL-11 | TNF-α |
| IGF-I | IL-12 | TNF-β |
| IGF-IR | IL-13 | VEGF |
| IGF-II | IL-17 | |
| | | |

MOUSE

| MOUSE | | |
|----------|---------|---------|
| CRG-2 | IL-6 | MIP-1α |
| Eotaxin | IL-10 | ΜΙΡ-1β |
| GM-CSF | IL-10 R | MIP-2 |
| IFN-γ | IL-12 | OSM |
| IL-1β | IL-13 | TNF-α |
| IL-1ra | KC | TNF RI |
| IL-2 | Leptin | TNF RII |
| IL-3 | Marc | Тро |
| IL-4 | MIG | VEGF |
| IL-5 | | |
| 12 2 2 8 | | |
| RAT | | |
| CNTF | IL-4 | TNF-α |

IL-1β IL-2

HUMAN/MOUSE/RAT

| FGF-8b | NT-4 | TGF-β2 |
|--------|--------|--------|
| GDNF | TGF-β | TGF-β3 |
| NT-3 | TGF-β1 | |





Mouse mammary gland cryosections were fixed with 4% para-formaldehyde and dual stained using chicken anti-TGF- β 1 antibody detected with Texas Red labeled secondary antibody and goat anti-LAP (TGF- β 1) antibody detected with fluorescein labeled secondary antibody. Nuclei were counterstained with DAPI. Normal mammary gland (LEFT - shows abundant LAP (TGF- β 1) immunostaining (green) reflecting the presence of latent TGF- β 1. Mammary gland taken from animals exposed to whole body irradiation with 5Gy 24 hours prior to processing. (BELOW - exhibits predominantly active TGF- β 1 immunoreactivity (pinkish-red). This shift is due to the loss of LAP concomitant with increased access to active TGF- β 1 and is consistent with activitation of latent TGF- β 1.

Sytokine Antibodies for immunohistochemical and immunofluorescent staining

Immunofluorescent localization of active TGF-β1 and latent TGF-β1 complex in normal and irradiated mouse mammary gland sections using TGF-β1 affinity purified chicken anti-TGF-β1 antibody (Cat. # AF-101-NA and goat anti-LAP (TGF-β1) affinity purified antibody (Cat. # AF-246-NA), respectively.

Successful identification of cytokines by immuno-



histochemical or immunofluorescent staining involves careful selection of a cytokine-specific antibody. An antigen affinitypurified polyclonal antibody pool contains more specific antibodies to the cytokine allowing for an increased intensity of the cytokine-specific stain over a monoclonal antibody with less background than a traditional polyclonal antibody.

R&D Systems has over 90 antigen affinity-purified polyclonal antibodies available, unlabeled or with a biotin label, for use in immunohistochemistry and immunofluorescence.

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES.

North America R&D Systems, Inc. 614 McKinley Place NE Minneapolis, MN 55413, USA. Tei: 612 379-2956 Fax: 612 379-6580 info@rndsystems.com Europe R&D Systems Europe Ltd. 4-10 The Quadrant, Barton Lane Abingdon, OX14 3YS, UK. Tel: +44 (0)1235 551100 Fax: +44 (0)1235 533420 info@rndsystems.co.uk Germany R&D Systems GmbH Borsigstrasse 7 65205 Wiesbaden, Germany Tel: +49 06122 90980 Fax: +49 06122 909819 infogmb@rndsystems.co.uk Japan Funakoshi, Co., Ltd. 9-7, 2-Chome Hongo, Bunkyo-ku Tokyo 113, Japan Tel: 81-3 5684-1622 Fax: 81-3 5684-1633

International Distributors – Argentina: (54-1) 942-3654. Australia: (61-2) 9521-2177. Austria: 01 292 35 27. Chile: (56-2) 671-9369. Greece: 031 322 525. Hong Kong: (852) 2649-9988. Israel: (972-9) 764-8787. Italy: 39 2 25 75 377. Korea: (82-02) 569-0781. Mexico: (52-5) 612-0085. New Zealand: (64-9) 377-3336. Spain : 34 1 535 39 60. Poland: 48 22 720 44 54. Portugal: 01 352 87 74. South Africa: 021 981 1560. Taiwan: (866-02) 368-3600. Venezuela: (58-2) 239-07-80.

Europe Free Phone – Belgique/België: 0800 10 468. Danmark: 80 01 85 92. France: 0800 90 72 49. Nederland: 060 225607. Norge: 800 11033. Sverige: 020 79 31 49. Switzerland: 0800 55 2482.

www.rndsystems.com

Circle No. 53 on Readers' Service Card