

before proceeding with the deglacial history. J. T. Teller follows with a minitreatise on the formation and sedimentology of proglacial lakes; then he recounts the history of such lakes from the Canadian Plains to New England, as well as analyzing the effects of their outflow on adjacent oceans.

In the second section W. S. B. Patterson and C. U. Hammer analyze curves of oxygen isotopes, dust content, and carbon dioxide from Greenland and Antarctic ice cores. A. C. Mix follows with a detailed treatment of the oxygen-isotope record in planktonic and benthic Foraminifera and comparisons with ice volumes and sea levels, giving special attention to the events during Termination I (the last-glacial-to-postglacial transition). W. F. Ruddiman then looks at the record of the northern oceans, concentrating on climatic modeling and relations to orbital parameters. Next, W. R. Peltier summarizes and extends arguments on geophysical modeling of glacial isostasy and mantle viscosity, stressing their essential and active role in climatic change. Glacial rebound may supply an important "missing link" in the Milankovitch astronomical hypothesis—namely a feedback mechanism that enhances the 100,000-year signal. Finally in this section, T. Hughes reconstructs the Laurentide ice sheet and traces its evolution during the last deglaciation in a series of maps (for 18, 14, 12, 9.5, 8.5, and 7 ka) of simulations of topography and flow lines of the ice sheet based on glaciological theory and geomorphic evidence. This is clearly an extension and refinement of Hughes's earlier models and improves the fit of such models to the field evidence.

In the next section the complex response of river systems, evidenced by braided versus meandering patterns and by terrace systems, is analyzed by S. A. Schumm and G. R. Brakenridge. Then the complicated climatic relations of closed basin lakes in the Great Basin are reviewed by L. Benson and R. S. Thompson, followed by an evaluation of the contribution of ostracode study to lacustrine paleoclimatology by R. M. Forester.

Approximately one-third of the book is devoted to the biological record—pollen, packrat middens, beetles, and mammals. This section is one of the highlights of the volume, and appropriately so, given the interests and long-term contributions of one of the editors, H. E. Wright, Jr. The individualistic response of taxa to past environmental change is now clearly recognized in both vegetation and faunal records. Color maps by G. L. Jacobson and others depict vegetation change in eastern North America on the basis of pollen records with a resolution of 100 years or less. Moreover, by means of "chord distances" in multivariate

statistical space, rapid vegetational changes that appear to characterize all the eastern part of the continent at 13.5, 12.3, and 10 ka have been identified. These pervasive changes are related to "significant shifts in . . . atmospheric circulation on a continental scale." One has to be impressed by the assemblage of biological data presented in this section in the form of maps, pollen and plant macrofossil curves, and time-distance diagrams, as well as by the useful lists of Latin and common names at the end of each paper.

The archeological record is included as well. R. Bonnichsen and colleagues provide capsule descriptions of essentially all the PaleoIndian sites in North America, categorizing them by the pattern of tools present—bone artifacts, blades, and various kinds of projectile points. These authors, however, omit controversial sites, such as Meadowcroft, Pennsylvania, in favor of the mainstream sites that date from approximately 12 to 10 ka. In line with the theme of the volume, the 11-ka "threshold in human adaptive systems" is linked through vegetational and animal resources to climatic change and the orbital hypothesis.

In the final section J. E. Kutzbach, whose work seems to pervade all the preceding papers, applies atmospheric general circulation models to simulate temperature, precipitation, pressure, and winds at 18, 9, and 0 ka. Although the models are admittedly still too coarse and too simplified to "permit detailed comparisons with local geological records," much progress has been made toward bringing the modeled predictions in line with the essential conclusions of the natural record presented by others in this volume. The editors close the volume with summary chapters on the oceans and ice sheets (Ruddiman) and the land south of the ice (Wright). Abundant references at the end of each paper and a good index add significantly to the value of this source book.

This will be an essential reference for scholars of all persuasions who hope to grasp the complex essence of the Quaternary period. Throughout the volume a pervasive unity exists among Milankovitch theory, modeling, and mathematics. This is a quite different face of Quaternary science from that of a few decades ago. The traditional view of "ice ages" has given way to a much broader view involving all the earth sciences, and clearly it has led to a much greater understanding of the way the land-ocean-atmosphere system works and changes through time.

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Books Received

Astronomical Optics. Daniel J. Schroeder. Academic Press, Orlando, FL, 1987. xiv, 352 pp., illus. \$45.

Behavioral Approaches to Crime and Delinquency. A Handbook of Application, Research, and Concepts. Edward K. Morris and Curtis J. Braukmann, Eds. Plenum, New York, 1987. xxvi, 625 pp. \$65.

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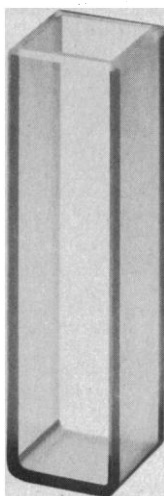
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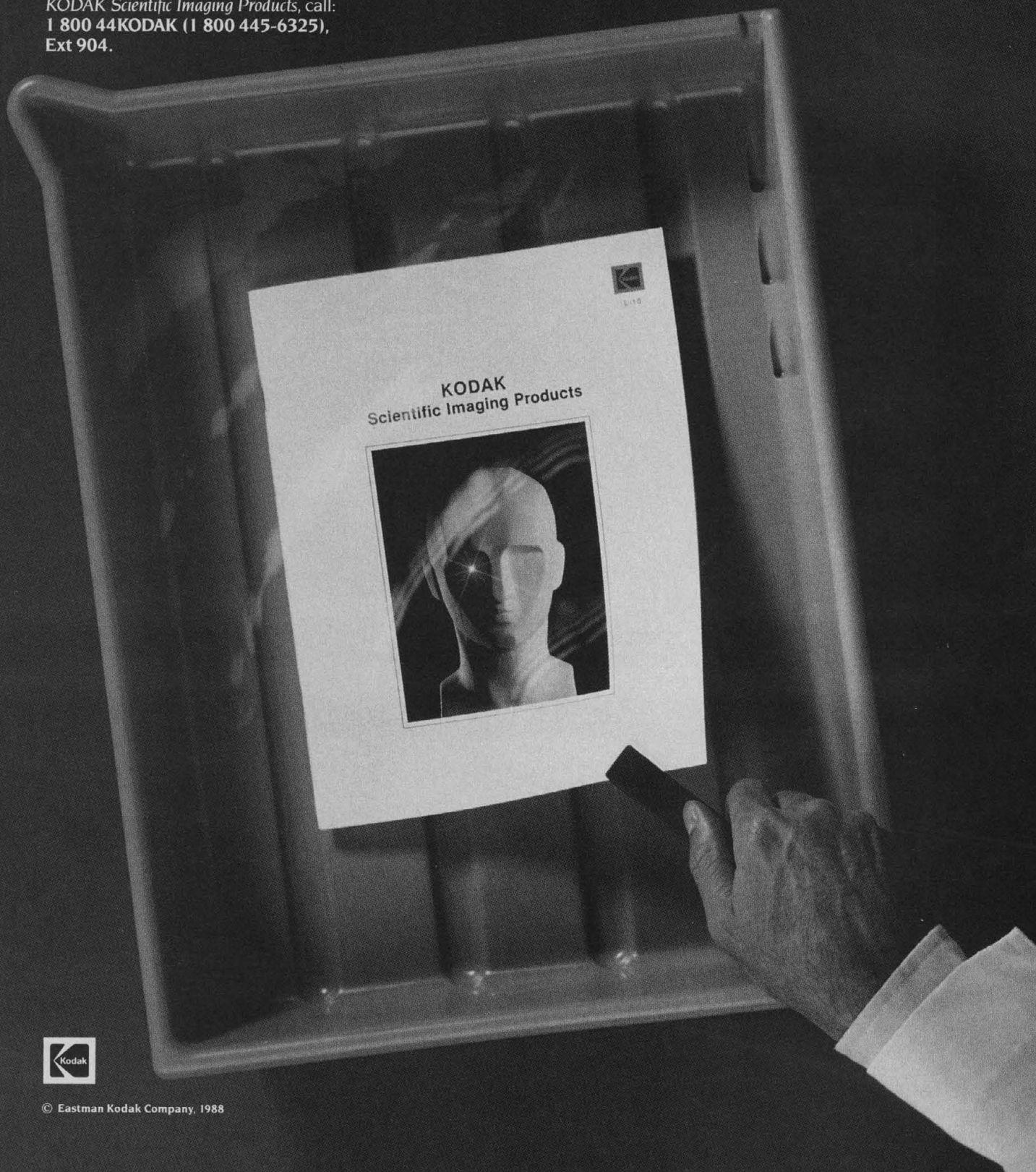
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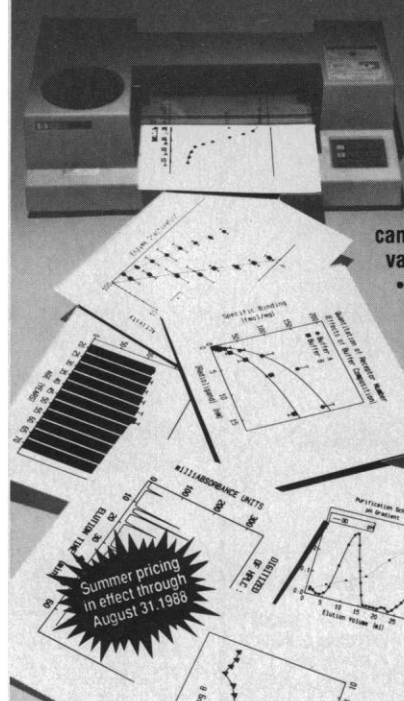
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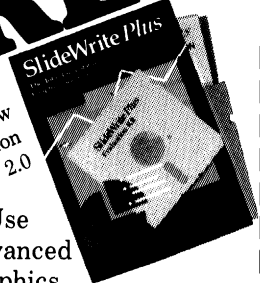
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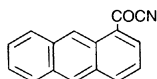
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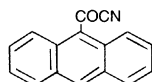


λ_{ex} 360 nm

λ_{em} 460 nm

M.W. 231.25

9-Anthroyl Cyanide

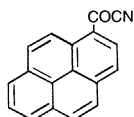


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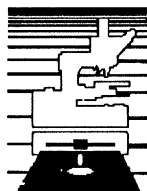
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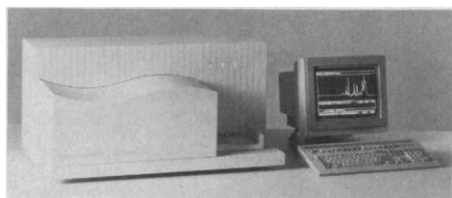
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The Affinica Protein A affinity purification kit isolates immunoglobulins from serum, culture supernatants, and ascites fluid. The kit includes a cartridge with a gel matrix

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and an immobilization chemistry, optimizing buffers for binding and elution of the immunoglobulin, syringe filters, and a regeneration buffer to restore ligand activity. Immunoglobulins can be isolated in small volumes with recovery rates greater than 20 mg/ml of human immunoglobulin G per milliliter of gel. The 2-fluoro-1-methylpyridinium toluene-4-sulfonate coupling chemistry that binds protein A to the cartridge matrix allows ligand binding of 2 to 3 mg/ml of gel. This method also results in permanent immobilization of protein A without ligand leaching. Schleicher & Schuell. Circle 568.

LC-MS System

The HP PB LC/MS system is a liquid chromatograph-mass spectrometer that generates electron-impact spectra of nonvolatile and thermally labile compounds, and the spectra can be matched to a library. The system has a particle-beam interface mounted on the mass spectrometer. A gas chromatograph can be added to the system; other options include thermospray, a direct insertion probe, desorption chemical ionization, fast atom bombardment, and either packed- or capillary-column operation. Hewlett-Packard. Circle 555.

HPLC System

The PowerLine Delta Prep 3000 System is a preparative high-performance liquid chromatography (HPLC) system. Flow rate can be between 1 and 180 ml/min, and tunable ultraviolet detection is possible between 190 and 600 nm. The system is designed so that it can perform methods development with small quantities of sample, perform large-scale purification and isolation, and check purified fractions. All functions are integrated by computer, so that one keyboard suffices to control the pumping system, ultraviolet detector, and other functions. As many as 15 methods can be stored and recalled. Waters Chromatography Division, Millipore Corp. Circle 433.

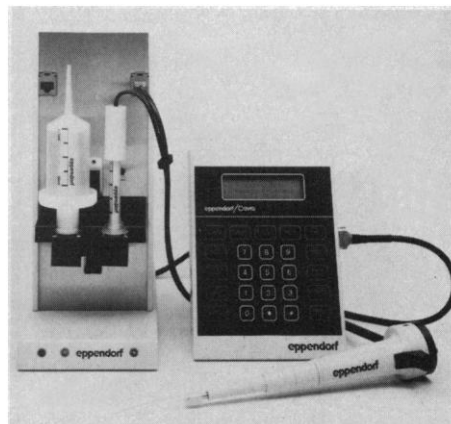
Scientific Calculator

The HP-32S RPN is a programmable scientific calculator with reverse Polish notation. (Reverse Polish notation allows equations to be entered with no parentheses and with fewer keystrokes.) It has a complete set of math and science functions, including integration and complex numbers, and it can solve an equation for any variable once the

equation is set equal to zero. Functions can be accessed by menus. The HP-32S RPN has a one-line 12-character liquid-crystal display, a 16-kilobyte read-only memory, and a 512-byte random-access memory. \$69.95. Hewlett-Packard. Circle 559.

Liquid Handling System

Ecco is an ergonomically designed modular system for handling liquids of 100 μ l to 50 ml. Features of the system include vari-



able speed control, blow-out, and calibration. Menu prompts ease procedure programming, and multiple-stepped protocols are possible. Eppendorf. Circle 558.

Literature

Fast X-Ray Mapping: An Applications Portfolio tells of a new technique for producing digital x-ray maps quickly. Kevex, Analytical Instrument Division. Circle 446.

Gamma 5500B PC Ready Systems: Bulletin 7798 features gamma counting software programs. Beckman Instruments, Scientific Instruments Division. Circle 447.

Color-Detector Tubes is a brochure about detector tubes, their accessories, and the gases, liquids, and vapors that can be measured with them. SKC. Circle 449.

Fluorescence Detectors describes fluorescence detectors for high-performance liquid chromatography that have a pulsed xenon lamp for excitation. SpectroVision. Circle 451.

The SLM 48000 GHz Phase Fluorometer is a product bulletin that details experiments possible when a multiple frequency lifetime spectrofluorometer is interfaced with a laser. SLM Instruments. Circle 452.

Gloves for Science and Industry is a 20-page catalog of cryo, vinyl, rubber, and disposable gloves that has recommendations for the types of glove appropriate for different chemicals. VWR Scientific. Circle 453.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

LINE CLASSIFIED ADVERTISING DEADLINES:

Thursday, 10 a.m., 2 weeks prior to issue date (mailed on issue date). For deadlines for display advertising, please contact Scherago Associates.

POSITIONS WANTED: 40¢ per word, plus \$4 for use of box number, per week. \$10 minimum, per week. Prepayment required. This rate is available only to individuals seeking jobs.

LINE CLASSIFIED (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$38.00 per line; \$380 minimum, per week (minimum charge covers one inch on a single column; one inch equals 10 lines of 52 characters and spaces per line). No charge for use of box number. No agency commission for ads less than 4 inches. No cash discount. Prepayment required for all foreign ads. Purchase orders and/or cover letter including billing address required for all other advertising.

To ESTIMATE ad cost:

Structure ad copy on a separate page, on lines of 52 characters and spaces. Include any desired heading. Each line of heading, and/or extra line spaces, and all partial lines (including centered reply information) are counted as full lines. Ad titles located within the text are printed in boldface caps and are only 32 characters per line. In ESTIMATING the cost, multiply total lines x \$38.00 = approximate cost of ad. (This is an approximate cost ONLY: Allow for variation between estimated lines and actual typeset lines and the resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.)

CANCELLATION POLICY:

NOTE: Ad cancellations made after Thursday, TWO weeks prior to issue date incur a 10% production charge. Final deadline for cancellations is 12 p.m. Tuesday, ONE week prior to issue date. Cancellations must be in writing.

Send copy for all **Positions Wanted** ads and **Line Classified** ads less than 1/6 page in size (39 lines) to:

SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005
Telephone: 202-326-6555

Send copy for **Fractional Display** ads, 1/6 page and larger, and all **Marketplace** ads to:

Scherago Associates, Inc.
1515 Broadway
New York, NY 10036
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1333 H Street, NW
Washington, DC 20005

POSITIONS WANTED

Biochemical Engineer, Biophysicist, Ph.D. 20 years of research and industrial experience in monitoring and optimization of fermentation processes. Knowledgeable in UV/VIS/IR and fluorescence spectroscopy, off-gas and wet chemical analysis, HPLC, GLC, TLC methods. Immigrated to the U.S.A., January 1988. Russian native. Employment authorized. Will relocate. Box 119, **SCIENCE**.

Image Processing and Machine Vision. Expert in the design and construction of practical computing systems, especially devices for image analysis and machine vision. Extensive experience in medicine and biology but knowledgeable in other areas. Have worked in both commercial and university settings. Interested in consulting on problems of both hardware and software design. Robert S. Schehr, Ph.D., P.O. Box 109, Lake Placid, NY 12946. Telephone: 518-523-9086.

POSITIONS WANTED

Biochemical Pharmacologist, Ph.D. with group leadership experience in industrial laboratory for cardiovascular and CNS research, proven publication record, fluent in French and Spanish. Seeking challenging and responsible position in industry at the international level, domestic or foreign. Box 115, **SCIENCE**.

Biologist/Physiologist, Ph.D., research on the physiology of the gastrointestinal tract, vitamin metabolism, chromatography, solid phase extraction, atom absorption, HPLC, enzyme assays, immunocytochemistry. Seeking a research position in physiology or related field in an industrial, academic, or clinical laboratory. 1910 West Main Street, Richmond, VA 23220.

Biomedical Engineer, Ph.D. Several years of teaching and research experience in biomechanics (bone, spine and skin), biomaterials, biotribology, physiological systems, implant design and development, finite element modeling, human gait analysis, bioinstrumentation, biotechnology, rehabilitation engineering. Experienced in grant procurement. Publications in refereed journals. Seeks challenging position in teaching/research, university/industry. Box 120, **SCIENCE**.

Immunologist, Ph.D. Specialist in cellular immunology, hybridomas, monoclonal antibodies, and lymphokines. Experience in biotechnology research and development in cancer immunotherapeutics. Seeking position in industrial or academic laboratory investigating immunological approaches to human disease. Excellent background and references. Box 118, **SCIENCE**.

Molecular Biologist, Ph.D. Research in gene regulation of oncogenes and Ig genes. Broad knowledge in a variety of techniques used in cell culture, immunology, molecular genetics and transgenic mice. Seeks group leader position in academic/industrial laboratory in Europe. Excellent publication record. Box 117, **SCIENCE**.

Simultaneous Interpreter and Translator from Japanese publications, patents, and technical report. P.O.B. 211063, Columbus, OH 43221.

Toxicologist, Ph.D., Board-certified with extensive industrial and governmental experience (laboratory and non-laboratory). Seeks industrial/consulting position in the Mid-Atlantic area. Box 116, **SCIENCE**.

Translations from Japanese, Russian and German in medical sciences, biotechnology, pharmaceuticals, and organic chemistry. Experienced Ph.D. scientist. P.O.B. 7511, Alexandria, VA 22307.

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA DEPARTMENT OF DERMATOLOGY

Applications are invited for a Ph.D.-level **ADJUNCT ASSISTANT PROFESSOR** to coordinate an NIH research project on sphingolipid metabolism in cultured keratinocytes. Prior experience in lipid biochemistry and metabolism essential. Salary: Negotiable.

Contact: **Dr. Peter M. Elias, Professor and Vice-Chairman, Department of Dermatology, VAMC, 4150 Clement Street, San Francisco, CA 94121.**

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

ASSISTANT PROFESSOR, tenure-track. Develop a research program in study of pathogen/insect relationships, insect/plant relationships, or insect response to toxicants using the approaches of molecular biology, biochemistry, and molecular genetics. Requires Ph.D. in entomology, molecular biology or related discipline. Commitment to fundamental research on problems of significance to agriculture is essential. Teach an upper level course in insect physiology and a second course. Send statement of professional interests and experience, résumé (including reprints), academic transcripts, and names and addresses of three references by 15 September 1988 to: **Dr. Lance Meinke, Search Committee, Department of Entomology, University of Nebraska-Lincoln, Lincoln, NE 68583-0816. Telephone: 402-472-2123. Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHARMACOLOGY. Applications are being solicited for a 12-month tenure-track position at the assistant professor level in pharmacology. The successful applicant will have an earned doctorate in pharmacology and have the potential to develop an independent research program. A significant portion of time will be spent teaching pharmacology to second year medical students. Experience in educational activities is, therefore, desirable. Interested individuals are asked to submit curriculum vitae, and three letters of reference, to: **Dr. Alvin S. Levine, Assistant Dean and Director, Terre Haute Center for Medical Education, Indiana University School of Medicine, 135 Holmstedt Hall, Terre Haute, IN 47809. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR TERRESTRIAL ECOLOGIST IN NATURAL RESOURCES THE UNIVERSITY OF VERMONT

The School of Natural Resources invites applications for a tenure-track, academic year position in terrestrial ecology with an emphasis on forest ecosystems. Applicants should have demonstrated scholarly accomplishment in terrestrial ecology and possess the potential for excellence as a university instructor and graduate student advisor. Responsibilities include teaching an interdisciplinary upper-division course in environmental impact assessment in an undergraduate core curriculum and the implementation of an active and competitive research program in ecology. Candidates should have a Ph.D. and experience with modern techniques and quantitative approaches toward addressing ecological problems. *Minority and female applicants are especially encouraged.* Send résumé, transcripts, and three letters of reference by 16 September 1988 to: **Dr. D. H. DeHayes, Chair, Ecology Search Committee, School of Natural Resources, The University of Vermont, Burlington, VT 05405. Equal Opportunity/Affirmative Action Employer.**

ASSISTANT RESEARCH PHYSICIST SPACE SCIENCES LABORATORY UNIVERSITY OF CALIFORNIA, BERKELEY

The Space Sciences Laboratory of the University of California at Berkeley has an opening for an assistant research physicist to participate in the development of an infrared heterodyne interferometer for astronomical purposes. This is a permanent position dependent on favorable funding starting 15 August 1988 and is part of a long-range project. The annual salary range is \$36,600 to \$45,700.

Applicant must be a Ph.D. experimental physicist with 2 years of postdoctoral experience. Professional expertise in electromechanical systems, phaselocking and design of oscillators, real-time programming for telescope pointing and data acquisition, telescope adjustments, heterodyne technology, as well as experience with lasers and molecular spectroscopy is required. Competence in computer programming in various languages, electronics, and general knowledge of astronomy is expected.

Send a résumé by 5 August 1988 and a list of three references to:

Professor Charles H. Townes
Space Sciences Laboratory
University of California
Berkeley, CA 94720

*The University is an Equal Opportunity/
Affirmative Action Employer*

BIOTECHNOLOGY INFORMATION MANAGEMENT

The Washington University Institute for Biomedical Computing is seeking applicants for collaborative activities with the Washington University Center for Genetics in Medicine. The primary research focus will be the organization of the human genome. Applicants with sound backgrounds in theoretical biology, molecular biology, computer science, or clinical medicine are preferred. Predoctoral or postdoctoral positions are available. Stipends are awarded through the Program in Medical Informatics sponsored by the National Library of Medicine. Application material may be obtained from:

Medical Informatics Research Training Program
Institute for Biomedical Computing
700 South Euclid Avenue
St. Louis, MO 63110

ASSISTANT PROFESSOR OF ANATOMY

MEMORIAL UNIVERSITY OF NEW-FOUNDLAND invites applications for a tenure-track position of Assistant Professor of Anatomy in the Faculty of Medicine. The successful applicant would teach gross anatomy to medical students and would be expected to have or to develop a strong research program, particularly within the area of neuroscience. Excellent facilities for research are available including electron microscopy, histology, computing services and animal care, together with ample opportunity for collaborative research in neuropharmacology, neurophysiology/physiology and clinical science. Generous funds will be available to set up a research program. Assistance with relocation is available.

In accordance with Canadian immigration requirements priority will be given to Canadian citizens and permanent residents of Canada.

Applications including a curriculum vitae, a statement of research interests and the names of three referees should be sent by September 1, 1988 to **Dr. T. M. Scott, Professor of Anatomy, Memorial University of Newfoundland, St. John's Newfoundland, Canada, A1B 3V6.**

If Research Is What You Do Best...

Break through to a new world of possibilities in biotechnology.

As the innovative leader in today's dynamic industry...biotechnology, Genetics Institute can offer you a research environment that's rich in creativity and entrepreneurial spirit. Whether your background stems from academia or another research setting, we at Genetics Institute encourage our research professionals to explore their talents in a stimulating, scientific atmosphere. It is this type of environment that has enabled our research team to make the kind of contributions deserving of our reputation in the application and creation of recombinant DNA technology.

Protein Chemistry

We currently have an opening for a staff scientist to join our cancer program. Initial responsibilities will include the design, purification and assay of novel protein conjugates that are specific for tumor cells. The ideal candidate will have a Ph.D. with a minimum of one year relevant post-doctoral experience in protein biochemistry and a working knowledge of molecular biology and various expression systems.

Molecular Biology

We are seeking a number of highly innovative scientists to contribute to the research of novel recombinant DNA technology. Two positions will be actively involved in DNA cloning and manipulation, mutagenesis, vector construction/design, cell culture and other molecular biology techniques. A third position will be focused primarily on DNA sequencing. A fourth position requires experience in molecular biology, protein purification and cell culture techniques. A background in immunology will be particularly beneficial.

These opportunities require a Bachelor's or Master's degree in Biology or a related life science with a minimum of one year's experience in the appropriate area. Independent research at the undergraduate level is acceptable.

We offer a stimulating scientific environment in addition to an excellent salary and a complete benefits package. Qualified applicants should forward their resumes, in confidence, to Sheri Rist, Genetics Institute, 87 CambridgePark Drive, Cambridge, MA 02140.

An Equal Opportunity Employer

Genetics Institute

Scientific Staff Opportunities

(BS, MS, PhD and Post Doctoral)

Merck Sharp & Dohme Research Laboratories continues to expand its scientific staff. Several new positions at all levels (B.S., M.S., Ph.D. and Post Doctoral) are available in the Department of Molecular Biology for individuals with experience in molecular biology and/or biochemistry. The major focus of the group is an understanding of mechanisms involved in signal transduction. Current projects include structure-function analysis of the beta-adrenergic receptor, muscarinic cholinergic receptor, G-proteins, and lipoxygenases by molecular genetic and biophysical techniques. Individuals experienced with xenopus oocyte expression systems and electrophysiology are highly desired. Excellent salary and benefits programs accompany this position at our modern research laboratories located 25 miles northwest of Philadelphia.

Please send resume to:

Manager, Research Personnel
Bldg. W42-2

**Merck Sharp & Dohme
Research Laboratories
West Point, PA 19486**

EEO/AA/VH/EMPLOYER



Merck & Co., Inc.

Molecular Biologists

The Agricultural Research Division of American Cyanamid Company currently has openings for molecular biologists to join an energetic and growing Molecular and Cellular Biology Group.

Positions are available for individuals possessing an MS or BS, with extensive laboratory experience. Working knowledge of molecular biological techniques is essential; tissue culture experience and familiarity with protein purification techniques are desirable. These positions involve work with transgenic animals, including plasmid construction, microinjection, screening and analysis of transgenic offspring. This is an excellent opportunity for scientific growth and development, with the opportunity for considerable independence.

Positions at the PhD level are also available. The successful candidates will ideally have completed two or more years of post-doctoral training. These individuals will be expected to initiate and direct a basic research program aimed at understanding the role of growth factors and their receptors in the regulation of animal growth *in vivo*. Experience in molecular biology and immunological methods is required.

American Cyanamid offers a competitive compensation and benefits package. The Agricultural Research Center is located just outside of Princeton, one hour from New York and Philadelphia. For prompt and confidential consideration, forward your resume, and the names and addresses of three references by 9/1/88 to the Employment Office, and refer to positions BT.



American Cyanamid Company

Agricultural Research Division
P.O. Box 400, Princeton, New Jersey 08540
An Equal Opportunity Employer M/F/H

POSITIONS OPEN

BIOLOGIST. Cornell College, a private liberal arts college located in Mount Vernon, Iowa, seeks candidates to fill a 1-year leave replacement position in its Biology Department. The position may become a full-time tenure-track position in 1989 to 1990. Courses to be taught include genetics, developmental biology, and introductory biology. Send curriculum vitae and three letters of reference to: **Ann Blakley, Biology Department, Cornell College, Mount Vernon, IA 52314.** Application deadline is 5 August 1988. *Cornell College is an Equal Opportunity/Affirmative Action Employer and actively seeks applications from women and minority candidates.*



CHAIR, DEPARTMENT OF BIOLOGICAL SCIENCES

We seek nominations, including self-nominations, of persons actively engaged in research to chair this Department, which encompasses a broad range of life science disciplines. The Department consists of 27 faculty members and approximately 130 graduate students in M.S. and Ph.D. programs. A new \$21-million research building is planned for occupancy in 1990 with accompanying expansion of faculty and program. The position is available in January 1989 but may be deferred to as late as August 1989. An attractive salary, substantial start-up funds, etc. will be negotiated. Please send curriculum vitae and other pertinent material to:

Professor Richard L. Lintvedt
Chair, Selection Advisory Committee
Department of Chemistry
Wayne State University
Detroit, MI 48202

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

CHAIRMAN, DEPARTMENT OF PEDIATRICS

The University of Florida College of Medicine seeks a distinguished academic pediatrician to serve as Professor and Chairman of the Department of Pediatrics. Applicants should have an M.D. degree, Board Certification in Pediatrics (or equivalent), a record of significant accomplishments in research, clinical skills in pediatrics, and a clear commitment to the teaching of medical students and to post-graduate education. Applications, including curriculum vitae, bibliography, and the names and addresses of at least five persons that may be contacted for reference should be sent before 26 August 1988 to: **Jerome H. Modell, M.D., Chairman, Pediatric Search Committee, College of Medicine, University of Florida, Box J-254, JHMHC, Gainesville, FL 32610.** The earliest anticipated starting date is 1 January 1989. *Equal Opportunity/Affirmative Action Employer.*

CHAIRPERSON OF ANATOMY AND CELL BIOLOGY. The University of Kansas Medical Center is seeking a chairperson for the Department of Anatomy and Cell Biology. The Department presently has a diverse research program with strength in neuroscience and cellular development. The successful candidate must have an active research program and a national reputation in one of these areas, although candidates with superior qualifications in other areas will be considered. Previous administrative experience is desirable. Nominations, letters of inquiry, and applications (to include curriculum vitae and bibliography, a description of research activities and administrative experience, and the names of three references) should be sent to: **Dr. David Morrison, Chairman, Department of Microbiology, University of Kansas Medical Center, Kansas City, KS 66103.** *The University of Kansas Medical Center is an Equal Opportunity/Affirmative Action Employer.*

CLINICAL IMMUNOLOGIST position available now at large, 2000-bed hospital. Must have doctorate and hospital based experience in flow cytometry and ELISA. Division has four professionals; position has two senior technicians assigned, starting salary \$37,500 per annum. Call: **Dr. A. S. Mark 312-633-7258** or write: **Division of Immunology, Cook County Hospital, 637 South Wood Street, Chicago, IL 60612.** *We are an Equal Opportunity Employer.*

POSITIONS OPEN

CLINICAL PATHOLOGY. The Department of Pathology at the University of California, Los Angeles (UCLA) School of Medicine has **JUNIOR FACULTY POSITIONS** available in hematopathology and microbiology beginning on or after 1 January 1989 and clinical chemistry/toxicology-therapeutic drug monitoring and transfusion medicine beginning 1 July 1989. Qualifications include an M.D. degree, certification in clinical or specialty pathology or equivalent experience, demonstrated research ability and potential for the development of an independent research program. Applications including curriculum vitae, summary of research interests, and names and addresses of four references should be sent to: **P. A. Cancilla, M.D., Chairman, Department of Pathology, UCLA School of Medicine, Los Angeles, CA 90024-1732.** *UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.*

CYTOGENETICIST: Division of Medical Genetics, Department of Preventive Medicine seeks M.S. or Ph.D., eligible or certified American Board of Medical Genetics for tenure-track faculty position supervising research/clinical laboratory and teaching. Send curriculum vitae to: **Hans-Georg Otto Bock, M.D., Ph.D., Department of Preventive Medicine, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505.** *Equal Opportunity Employer, M/F/H/V.*

PURDUE UNIVERSITY SCHOOL OF SCIENCE INDIANAPOLIS DEAN

Applications and nominations continue to be invited for Dean of the Purdue School of Science at Indiana University—Purdue University at Indianapolis (IUPUI). Qualified candidates will have a record of research, funding and teaching sufficient to merit appointment at the rank of professor, possess strong communication and interpersonal skills, have successful administrative leadership experience as department chair or higher, and demonstrate an understanding of the requirements of laboratory research.

The review of applications will continue until the position is filled. Contact: **William M. Platter, Chair, Science Dean Search Committee, IUPUI, Administration Building Room 108, 355 North Lansing, Indianapolis, IN 46202** for complete position description and additional information.

IUPUI is an Equal Employment Opportunity/Affirmative Action Employer. Candidates with a proven commitment to improving the participation of women and minorities in science professions are especially welcome.

DIRECTOR OF IVF LABORATORIES

Beth Israel Hospital is actively seeking a Ph.D. to serve as director of the IVF Embryology Laboratory. The IVF program is highly successful with a broad range of reproductive technology programs. Excellent opportunities for basic research are available. The candidate would receive a joint appointment at Harvard Medical School.

Interested applicants should send curriculum vitae to: **Machelle M. Seibel, M.D., Director, Division of Reproductive Endocrinology, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.**

UNIVERSITY OF CALIFORNIA SAN DIEGO BIOLOGY DEPARTMENT ELECTRON MICROSCOPE TECHNICIAN

Beginning salary range: \$26,700 to \$33,000 per year. Responsible for management, maintenance and operation of PEM and SEM facility including user training. Specimen preparations and general knowledge of biological electron microscopy. Supervision of records and supplies. M.S. degree in biological sciences or equivalent work experience preferred. Please send application by 11 August 1988, to: **Orlando Hidalgo, Personnel Department, Q-016, Job #24706-H, UCSD, 501 Matthews Complex, La Jolla, CA 92093.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

We are continuing to accept applications and nominations for the position of **DIRECTOR** of the Ralph L. Smith Mental Retardation Research Center located at the University of Kansas Medical Center, Kansas City. The Director is responsible for stimulating and supporting this Research Center's multidisciplinary program of research in mental retardation and related aspects of human development, which is carried out as part of a three-site University of Kansas Mental Retardation Research Center. The Director is expected to provide leadership to a group of researchers and their students and associates working in 35 laboratories, by helping in the planning of research programs, seeking support for these programs, and cooperating with other components of the three-site Center. Qualifications include: M.D. or Ph.D. with experience in biomedical research, research administration, and leadership involving groups of researchers, with focus on problems related to mental retardation or other human developmental deficiencies. Prefer principal investigator on federally funded research grant. Tenure-track faculty appointment will be offered in an appropriate academic department. Salary is competitive and commensurate with responsibilities, abilities, and experience. Send nominations or applications with curriculum vitae and names of three to five references to: **A. L. Chapman, Ph.D., Dean of Graduate Studies and Research, University of Kansas Medical Center, 39th and Rainbow Boulevard, Kansas City, KS 66103.** *The University of Kansas is an Affirmative Action/Equal Opportunity Employer.*

DIRECTOR ENVIRONMENTAL RESEARCH LABORATORY GULF BREEZE, FLORIDA \$65,994 to \$71,910

U.S. Environmental Protection Agency (EPA) is seeking highly qualified candidates for the position of Director, Gulf Breeze Environmental Research Laboratory. The Director is responsible for an applied research program which develops the scientific understanding, methods, and information required by EPA in order to protect marine ecological resources. The laboratory research areas include: marine ecology, microbial ecology, environmental chemistry, biology, and bio-chemistry. The Laboratory Director is responsible for the design and implementation of a long-term core scientific program of the Laboratory. The emphasis of the program is on scientific quality and relevancy to long-term ecological risks. The Director also serves as a major scientific advisor to the Agency in the area of marine ecological sciences.

To meet the requirements of the position, applicants must have demonstrated experience in the conduct of research and must meet the technical and executive qualifications described in the vacancy announcement. Telephone or write for a copy of the vacancy announcement to: **Edna Morse, U.S. EPA, Executive Resources and Special Programs Division, PM-224, 401 M Street, S.W., Washington, D.C. 20460.** The telephone number is 202-382-3328.

Applications must be postmarked by 31 August 1988. *EPA is an Equal Opportunity Employer.*

DIRECTOR OF GASTROENTEROLOGY AND HEPATOLOGY—The Department of Medicine of the Jefferson Medical College is seeking a Director for the Division of Gastroenterology and Hepatology. Responsibility for research, teaching and clinical programs at Thomas Jefferson University. Please forward inquiries and curriculum vitae to: **Willis C. Maddrey, M.D., Chairman, Department of Medicine, Jefferson Medical College of Thomas Jefferson University, 1025 Walnut Street, Philadelphia, PA 19107.** *Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION—MOLECULAR BIOLOGY. Tenure-track assistant professor position to begin in summer 1989.

We are seeking a molecular biologist who will initiate an innovative independent research program in basic molecular biology.

Applicants should submit a detailed curriculum vitae and a one-page description of research plans. Deadline for receipt of applications is 15 October 1988. Send all materials or inquiries to: **Search Committee, Department of Biological Chemistry, University of Maryland, School of Medicine, 660 West Redwood Street, Baltimore, MD 21201.** *The University of Maryland is an Affirmative Action/Equal Opportunity Employer.*

Visiting Research Scientist

Molecular Biology/Gene Expression

A PhD level Visiting Research Scientist position is available within the Gene Expression Group of DuPont's Central Research and Development Department. This one- to two-year temporary position requires proficiency in recombinant DNA techniques and developmental biology. The successful candidate will join a group interested in the mechanisms of selective gene expression with special emphasis on transcriptional control. Experience in molecular cloning, protein purification, transgenic mouse technology, gene transfer technology and/or the biochemistry of transcription and eukaryotic *in vitro* transcription systems would be desirable.

At the world renowned Du Pont Company you'll find a stimulating scientific environment in a modern research facility located near Wilmington, DE. Du Pont provides competitive compensation and relocation benefits. Our mid-Atlantic location offers a wide range of academic, cultural, and recreational activities. Interested candidates should send their resumes and references to Dr. Pamela Benfield, c/o Employee Relations Department, Room X-51271, Wilmington, DE 19898.



An Equal Opportunity Employer M/F/H/V
U.S. Citizenship Required

Senior Research Associate

Genentech, Inc., a leader in the field of biotechnology, is currently seeking a research professional to contribute to the elucidation of structure/function relationships of lymphokines.

The position requires proven ability to work independently within a small team framework. Candidates should have training and experience in protein biochemistry (purification, SDS-PAGE, ELISA, HPLC) and/or molecular biology (mutagenesis, DNA sequencing). Requirements range from a BS/MS with a minimum of six years' postgraduate experience, to a PhD.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, please send your resume to Yvonne Davino, Human Resources Department RW, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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Public Service
Commission
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Commission de la
Fonction publique
du Canada

Medical Virologist

**Health and Welfare Canada
Drugs Directorate, Bureau of
Biologics
Ottawa, Ontario**

We require an experienced medical virologist to manage the operations of the Division, including laboratory control testing, licensing and clinical studies of all viral products to ensure their potency and safety for use by the Canadian population. You will direct research on topics relevant to the operations of the Division, and perform clinical studies on existing and new viral vaccines.

You require graduation from a recognized school of medicine and eligibility for a license to practice medicine in a province of Canada. In addition, you require significant laboratory and managerial experience in testing, research and medical evaluation of viral products. Experience in biochemistry and immunology is desirable. Knowledge of the English language is essential.

We offer a salary ranging from \$68,846 to \$78,166 commensurate with your qualifications and experience.

Send your application form and/or résumé, quoting reference number

S-88-31-7256-47JG-G35, to:
Joan Girling (613) 996-8054
Public Service Commission of
Canada
171 Slater Street
Ottawa, Ontario K1A 0M7

Closing date: 19 August, 1988
Personal information you provide is protected under the Privacy Act. It will be held in Personnel Information Bank PSC/P-PU-040, Personnel Selection Files.

Vous pouvez obtenir ces renseignements en français en communiquant avec la personne susmentionnée.

The Public Service of
Canada is an equal
opportunity employer

Canada

POSITIONS OPEN

Carnegie Mellon is recruiting **FACULTY** for its department of Engineering and Public Policy (EPP). Positions involve 50/50 joint appointments with traditional engineering departments. Areas of research interest include technical and policy problems in telecommunications, network design and security, and reliable computing; technical issues in arms control and defense policy; manufacturing, industrial policy and design; and engineering and regulatory issues in biotechnology. Require Ph.D., preferably in engineering, and demonstrated policy skills. Résumé to: **Professor M. Granger Morgan, Head, EPP, Carnegie Mellon, Pittsburgh, PA 15213.**

FACULTY POSITION IN PHYSIOLOGY. The Department of Physiology of the Temple University School of Medicine seeks a Ph.D. or M.D. to fill a full-time tenure position. Individual should demonstrate ability to do independent research and be involved in medical and graduate level teaching programs. Individuals with expertise in molecular biology who could collaborate with ongoing research efforts are encouraged to apply. Salary is commensurate with experience. Send curriculum vitae to: **Dr. Peter R. Lynch, Department of Physiology, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, PA 19140.** An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION SECRETORY EPITHELIAL CELL BIOLOGIST/MOLECULAR BIOLOGIST

The Dry Eye Research Program at the Eye Research Institute invites applications for a full-time position at the assistant or associate scientist level.

Ph.D. and postdoctoral experience required. Preference to candidates with experience in cell biology of secretory systems. Appointee will be expected to study function and structure of mammalian lacrimal and accessory lacrimal glands with an ongoing research group.

Position provides the opportunity to use basic cell biological techniques to understand clinically significant ocular surface problems. Salary and start-up funds available for two years.

Send curriculum vitae, brief summary of research interests, and names of three references to: **Darlene Dartt, Ph.D., Chair of Search Committee, Eye Research Institute, 20 Staniford Street, Boston, MA 02114.**

*Equal Opportunity/Affirmative Action Employer
M/F/V/H and others.*

HERBARIUM DIRECTOR: We seek a systematist having revisionary and curatorial experience with angiosperms to serve as Director of the University of Kansas Herbarium, hold an assistant or associate professor position in the Department of Botany, conduct research, and teach courses in evolutionary biology. Preference will be given to those having administrative experience and/or a history of external grant support. The position is tenure-track or tenured and the salary is commensurate with experience. Position available as of 1 January 1989. Applicants should submit (i) curriculum vitae, (ii) a statement of research goals and curatorial/administrative experience, (iii) description of courses that the applicant could or would like to teach, (iv) copies of reprints and/or manuscripts, (v) letters of reference from at least three persons to be submitted by the closing date, 30 August 1988, to: **Christopher Haufler, Chair, Herbarium Director Search, Department of Botany, University of Kansas, Lawrence, KS 66045.** The University of Kansas is an Equal Opportunity/Affirmative Action Employer.

JOI SATELLITE PROGRAM DIRECTOR

Joint Oceanographic Institutions Inc. (JOI) is seeking a Director of Satellite Programs. The Director will plan and manage satellite oceanography activities sponsored by NASA and NOAA, be responsible for data management, and support various advisory committees. Requirements include a Ph.D. or equivalent experience in oceanography or a related field; knowledge of oceanographic research and technology; and the ability to work with academic, federal, and industrial communities. Apply by sending cover letter, résumé, and three references to: **D. James Baker, President, JOI, 1755 Massachusetts Avenue, NW, Suite 800, Washington, DC 20036.** JOI is an Equal Employment Opportunity Employer.

POSITIONS OPEN

FACULTY POSITION DEPARTMENT OF PHARMACOLOGY COLLEGE OF MEDICINE THE UNIVERSITY OF ARIZONA

Applications are invited for a tenure-track faculty position in the Department of Pharmacology. Research in the area of intercellular communication, signal transduction, and factors regulating growth and differentiation as pursued with tools of modern molecular biology are areas of particular interest however, outstanding scientists in other areas will also be considered. Candidates for this position should have pertinent postdoctoral experience, Ph.D. or M.D. The successful candidate will be expected to teach graduate and medical students and to develop an independent research program. A wide variety of interactions with our present faculty members are possible in many areas of molecular and cellular biology, biochemistry, toxicology and immunology. Applicants should submit curriculum vitae, two copies of recent representative publications, a detailed description of research goals and names of three references on or before 5 August 1988 to: **Donna Staley, Department of Pharmacology, College of Medicine, University of Arizona, Tucson, AZ 85724.** The Search Committee expects to begin reviewing applications on 1 August 1988 but will continue to accept applications until the position is filled. The University of Arizona is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

IMMUNOLOGIST: The Delta Regional Primate Research Center (DRPRC), Covington, Louisiana has an opening for a research immunologist. The candidate is expected to establish an independent research program to complement other programs and contribute to on-going research in microbiology which includes studies in simian immunodeficiency disease, leprosy, and simian herpesviruses. Preference will be given to persons with strong viral immunology interests as well as experience with T- and B-lymphocyte populations. The Primate Center facilities offer an excellent environment for the study of pathogenesis and immune response to infectious agents as well as the interaction of new chemotherapeutics with the immune system. Salary is commensurate with qualifications and experience. Please send curriculum vitae with the names and addresses of three professional references to: **Dr. Kenneth Soike, Delta Regional Primate Research Center, Tulane University, Three Rivers Road, Covington, LA 70433.** The DRPRC is an Equal Opportunity/Affirmative Action Employer.

INVERTEBRATE VIROLOGY POSTDOCTORAL POSITIONS available to study the molecular genetics of baculoviruses. Research opportunities in regulation of gene expression, baculovirus expression vector system and construction of genetically-engineered viral pesticides. Positions available immediately for candidates with a Ph.D. in entomology, microbiology, biochemistry, or related field. Experience in recombinant DNA techniques required. Previous experience in insect or virus research not necessary.

Send curriculum vitae and names of three references to:

**Dr. H. Alan Wood
Boyce Thompson Institute at Cornell University
Tower Road
Ithaca, NY 14853.**

Boyce Thompson Institute is an Affirmative Action Equal Opportunity Employer.

MOLECULAR GENETICIST

The Department of Microbiology and Immunology at the Medical University of South Carolina is inviting applications for a tenure-track faculty position at the assistant/associate professor level. We are particularly interested in scientists working on expression of prokaryotic or eukaryotic proteins and related topics. The individual sought will be expected to develop an independent research program, but will be encouraged where appropriate to interact with other investigators. The successful applicant will also be involved in teaching of microbiology/virology and molecular genetics. Interested candidates should send curriculum vitae and names of three professional references to: **Dr. Thomas B. Higerd, Department of Microbiology and Immunology, Medical University of South Carolina, Charleston, SC 29425.** Telephone 803-792-4365.

POSITIONS OPEN

LABORATORY DIRECTOR Clayton Environmental Consultants, Inc., an international environmental and occupational health consulting firm is looking for a director to run its Pleasanton laboratory. You will be responsible for providing technical and organizational leadership to a group of 30 chemists. You will oversee efficiency and quality of work in the laboratory. The candidate must have a B.S. in a science-related field, a M.S. or Ph.D. is preferred with eight plus years of experience. This is a senior-level management position. For consideration please send your résumé with salary requirements to: **Personnel Manager, P.O. Box 9019, Pleasanton, CA.** Equal Opportunity Employer.

MEAT SCIENTIST—The U.S. Department of Agriculture, Cooperative State Research Service, is seeking an individual with recognized credentials to serve as a staff expert in the area of red meat, growth physiology, processing, animal by-products, at the biochemical and subcellular levels. This individual must have a broad and basic appreciation for animal biology and animal agriculture in the U.S. This is a full-time permanent position providing leadership and direction to nationwide and international research programs and projects. Starting salary is \$54,907 to \$71,377 based on experience and salary history. Full Federal benefits package. For further information call: **Wayne Winker at 202-475-4811.** Send SF-171 form and course listing to: **USDA, ES, PMSD, Room 3547-S, 14th Street and Independence Avenue, S.W., Washington, DC 20250-0900.** Reference announcement 333-A. Applications must be postmarked by 22 August 1988.

USDA is an Equal Opportunity Employer.

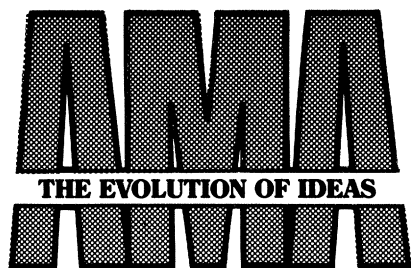
UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) AGRICULTURAL RESEARCH SERVICE (ARS)

Career position as a **MICROBIOLOGIST** (mycologist/molecular systematist) with the Northern Regional Research Center, Peoria, Illinois. Research concerns the systematics and genetic relationships of agriculturally important species of *Fusarium* and other anamorphic genera determined from comparisons of nucleic acids. The successful applicant will join a team of scientists in the ARS Culture Collection working on molecular systematics of various taxa. Graduate training and postdoctoral or equivalent experience in mycology and biochemistry/molecular biology are desirable. Some background in genetics is considered helpful. The Center employs about 150 scientists engaged in diverse programs of basic and applied research and provides a stimulating professional environment. U.S. citizenship is required. Salary is commensurate with experience (GS 11/12, \$27,716 to \$43,181 per annum). For information on the research program, contact: **Dr. C. P. Kurtzman, Telephone: 309-685-4011, extension 561.** For application procedures and forms, contact: **Ms. Barbara Lamm, 301-344-1542.** Applications in response to this advertisement should be marked 8N029 and must be received by 12 September 1988. The USDA is an Equal Opportunity/Affirmative Action Employer.

The Tufts University School of Veterinary Medicine, Department of Comparative Medicine, seeks a **MOLECULAR BIOLOGIST** with a strong research interest in the immunobiology of resistance to infectious disease. The appointment will be at the assistant professor level with a starting date on/around 1 November 1988 or by mutual agreement. Responsibilities will include: developing or sustaining an independent research program, participating in an immunology course, and collaborating in an ongoing program concerning the development of transgenic disease-resistant animals. Interested individuals should send curriculum vitae plus the names of three references to:

**Dr. Carol L. Reinisch, Chair
Tufts University
School of Veterinary Medicine
Department of Comparative Medicine
136 Harrison Avenue
Boston, MA 02111**

Tufts University is an Affirmative Action Equal Opportunity Employer



Since its founding, the American Medical Association has consistently earned a position of leadership in the campaign to promote the science of medicine and better public health. Help meet this continuing challenge in our progressive Division of Drugs & Toxicology by contributing your expertise in the following professional capacities.

Senior Scientist

Will be responsible for the scientific quality of released AMA drug information in the area of psycho/neuropharmacology. An M.D. and/or a doctorate in a biomedical science is required.

Scientist

Will assume responsibility for the scientific quality of drug information emanating from the AMA in the broad area of therapeutics and pharmacokinetics. A PharmD or Ph.D. in Pharmacy is required.

Both of the successful candidates will review and evaluate pertinent literature, consult with various experts and organize and present acquired medical knowledge for the AMA's Drug Evaluations. They will also serve as AMA topical resource professionals, represent the Division of Drugs at national meetings, and help develop AMA drug legislation positions. Publication and professional experience in academic, governmental or industrial clinical pharmacology is highly desired.

In addition to the challenge of these responsible positions, the AMA can offer the high visibility of a national leader and excellent compensation/benefits packages. Please send resume along with salary expectations to:



**Div. of Placement/
SDB-1235-KRM
AMERICAN MEDICAL
ASSOCIATION
535 N. Dearborn Street
Chicago, Illinois 60610
Equal Opportunity Employer**

Diabetes and Obesity Research

Scientist Senior Scientist Staff Scientist

At California Biotechnology Inc., we have focused on research and product development in protein drug delivery and genetically engineered human therapeutics. Through the union of innovative science and research concentration, we have what it takes to attract and retain the top research professionals in the industry. We currently have positions for Ph.D. researchers in one of our new focus areas, diabetes and obesity.

Qualified candidates will have expertise in molecular biology and/or protein chemistry. Knowledge of the sciences relating to diabetes and/or obesity, such as animal models of these diseases, or insulin chemistry, biosynthesis or action, is strongly preferred. Post-doctoral experience is required for Senior and Staff Scientist positions, for Scientist it is preferred.

Cal Bio offers a stimulating research environment with an exciting opportunity for growth. We have an attractive compensation and benefits program which includes a flexible time-off plan. For prompt consideration, please submit your curriculum vitae with three names of reference, to: Liza Mingione, California Biotechnology Inc., Human Resources, 2450 Bayshore Parkway, Mountain View, CA 94043. We are an equal opportunity/affirmative action employer.

CAL  BIO

SENIOR SCIENTISTS, PROTEIN BIOCHEMISTRY

In order to meet the increasing demands of the expanding Biotechnology Program at Hoffmann-La Roche, the Protein Biochemistry Department is seeking Senior Scientists for the purification and characterization of new activities/proteins that can be employed as therapeutic agents themselves and/or will lead to the discovery of new therapeutic agents.

To qualify, you should have a PhD and postdoctoral experience (or an equivalent research and publication record), and a demonstrated ability to efficiently purify and characterize proteins. A specialized background in approaches that lead to a molecular/mechanistic understanding of the interactions of ligands/substrates with their receptors/enzymes will be considered to be a definite plus. The project orientation of the Biotechnology Program at Hoffmann-La Roche demands that our scientists have strong interactive skills, and the ability to communicate effectively with professionals in the areas of molecular biology, physical chemistry, medicinal chemistry, cell biology, immunopharmacology, hemostasis, oncology, inflammation, obesity, dermatology and virology.

As a professional at Hoffmann-La Roche, you will receive a competitive salary and a generous benefits package. For confidential consideration, please send your resume to: **Mrs. Eleanor M. Malone, Sr. Professional Employment and Staffing Specialist, Department LN, Hoffmann-La Roche Inc., Nutley, New Jersey 07110.** We are an equal opportunity employer.



Hoffmann-La Roche

Working Today For A Healthier Tomorrow.



**LIFECODES
CORPORATION**

CLINICAL DNA SCIENTIST

Lifecodes Corporation is one of the pioneering companies applying DNA technology to human genetics.

We seek an individual with a recent Ph.D. to join our rapidly growing Forensic and Paternity Reference Laboratory, the premier such organization in the world. This person should have a strong background in molecular genetics and interest in the practical applications of recombinant DNA technology and the ability to supervise laboratory personnel.

Lifecodes is located in Westchester, New York, only 30 minutes from midtown Manhattan. Lifecodes is a wholly-owned subsidiary of Quantum Chemical Corp. We offer an extremely attractive salary/benefits package, including a complete medical plan, 401-K savings and pension plans, and a stock bonus plan.

To apply, send curriculum vitae and the names of three references to:

Personnel Department
Lifecodes Corporation
Saw Mill River Rd
Valhalla, NY 10595

Ph.D. SENIOR TECHNOLOGIST

Skin Care Products

Already a leading, worldwide marketer of hair care and related cosmetic products for professional and consumer markets, Helene Curtis continues exploring new product areas. Right now, we seek the scientific leadership of a Ph.D. Biochemist in developing new skin care technology and products.

The qualified candidate will have recognized expertise in the biochemical and biophysical processes of the skin and its therapeutic response to various pharmaceuticals. Ability to measure biophysical properties following treatments and develop structural profiles of new materials will be necessary. At least 4-7 years industry experience is desired, and evidence of scientific publications or patents is also important.

Helene Curtis provides an exceptional, expanding environment in addition to an attractive compensation plan with full benefits. For confidential consideration, please send your resume with salary history to: **Employment Manager, Dept S722, Helene Curtis, Inc., 4401 W. North Ave., Chicago, IL 60639.** Equal Opportunity Employer M/F



PhD Biochemist/ Geneticist

Du Pont's Central Research and Development Department is seeking an experienced PhD Biochemist/Geneticist for its Plant Science Research Section

The individual should be experienced in the techniques and approaches of molecular biology to investigate the organization of plant genomes and the function of membrane-bound proteins in plants. The successful candidate must be capable of pursuing independent research and engaging in collaborative projects with existing staff in the areas of gene regulation in plants, host/pathogen interaction, mechanism of phytohormone action, protein assembly and targeting, and protein structure/function analysis.

At Du Pont you'll find a stimulating scientific environment in a modern research facility located near Wilmington, DE. Our Mid-Atlantic location offers a wide range of academic, cultural and recreational activities. We provide excellent compensation, benefits, and relocation assistance. Qualified candidates should send a curriculum vitae with three letters of reference, c/o Professional Staffing Section, Employee Relations Department, Room X-51259, Du Pont Company, Wilmington, DE 19898.



*An Equal Opportunity Employer M/F/H/V
U.S. Citizenship Required*

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Public Service Commission
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Research Scientists

**Fisheries and Oceans
Centre for Resource
Assessment and Survey
Methodology
St. John's, Newfoundland**

We require several scientists, including a Head Scientist, statisticians and resource assessment modellers, to conduct long-term research into methodology for the management and assessment of marine renewable resources. Research will involve improved methods for population estimation, natural resource modelling, survey design, modelling species interactions, and bioeconomic modelling. The Head Scientist will oversee a research team of eight (8) persons.

You require graduation from a recognized university with a doctoral degree in mathematics, statistics or quantitative biology or a lesser degree with evidence of research experience and productivity equivalent to that of a doctoral degree and appropriate research experience. You should have a demonstrated record of publication. Knowledge of English is essential.

We offer a salary ranging from \$30,521 to \$74,074 commensurate with your qualifications and experience.

Please forward your résumé and/or application form, quoting reference number: S-88-31-7303-47JG-G35, to:
Joan Girling (613) 996-8054
Public Service Commission Of
Canada
Ottawa, Ontario K1A 0M7

Closing date: 26 August, 1988

Personal information you provide is protected under the Privacy Act. It will be held in Personal Information Bank PSC/P-PU-040, Personnel Selection Files.

The Public Service of Canada is
an equal opportunity employer

Canada

Director, Tumor Biology

**A Responsive Research
Environment**

Lead the way to important discoveries.

Schering-Plough's research-driven success in the identification, development and evaluation of anti-tumor compounds is an important reason why we are an industry pacesetter. To intensify our search for innovative pharmaceutical solutions, we have created a new and dynamic Tumor Biology Discovery Program.

We currently seek a forward-thinking research professional to spearhead this effort. In this newly created, highly visible position, you'll be responsible for the leadership, hiring and management of key program personnel. Your ability to integrate techniques and concepts of molecular biology into cancer drug discovery research, as well as to implement ideas with vision will determine the extent of the program's success.

The potential candidate should have a Ph.D or M.D. with eight years of relevant experience. A proven research record in molecular, cellular, or animal biology of tumor formation and progression is required. Previous research management experience is preferred.

At Schering-Plough, you'll receive the support and recognition to pursue your best ideas. In addition to outstanding resources and an exciting research environment, we offer an attractive salary and benefits package. For immediate, confidential consideration, contact: Mr. Louis DeMartino, Schering Research, 60 Orange Street, Bloomfield, NJ 07003. We are an equal opportunity employer.



Schering-Plough

POSITIONS OPEN

NEPHROLOGY—The University of Alabama at Birmingham is seeking candidates for **DIVISION DIRECTOR OF NEPHROLOGY**. Candidates should have demonstrated a high order of leadership, clinical competence and a clear commitment to academic excellence so that appointment as a professor will be in order. Qualified applicants should submit curriculum vitae to: **The Chairman, Department of Medicine, J. Claude Bennett, M.D., Chairman, Department of Medicine, UAB Station, Birmingham, AL 35294. An Equal Opportunity/Affirmative Action Employer.**

PENN STATE NEUROSCIENCE/ANALYTICAL CHEMISTRY

POSTDOCTORAL RESEARCH ASSOCIATE position available in development and application of electrochemical and separations-based (capillary electrophoresis) sensors to the study of chemical physiology and dynamics at the single cell level. Current interests involve measurements of catecholamines and peptides in invertebrate, mammalian primary culture and neuroblastoma cell systems. Send curriculum vitae to: **Dr. Andrew G. Ewing, Department of Chemistry, 152 Davey Laboratory, Penn State University, University Park, PA 16802.**

An Affirmative Action Employer/Equal Opportunity. Women and minorities are encouraged to apply.

PEDIATRIC ENDOCRINOLOGIST

The Department of Pediatrics, University of Cincinnati seeks a pediatric endocrinologist to complement the existing three faculty at Children's Hospital Medical Center. The candidate must be board certified in pediatrics as well as certified/eligible in pediatric endocrinology and be experienced in molecular biology. The position involves research, clinical and teaching responsibilities with the expectation of establishing an independently funded research program. Applicants should send their curriculum vitae and list of references to: **Mark A. Sperling, M.D., Director, Division of Endocrinology, Children's Hospital Medical Center, Cincinnati, OH 45229.**

PHARMACOLOGIST/CELL PHYSIOLOGIST PATCH-CLAMP ELECTROPHYSIOLOGIST

Natural Product Sciences (NPS) Inc. is a rapidly-growing company involved in basic and applied research on compounds of non-human biological origin. We are seeking two Ph.D.-level scientists with expertise in cell physiology/pharmacology or electrophysiology to join a group investigating the effects of such compounds. Applicants for the first position should have experience studying responses to drugs in neural or cardiovascular tissues; the second position requires experience in patch-clamp analysis of responses in neuronal or cardiovascular cells. Both positions offer the opportunity to work with a wide range of novel compounds in an exciting and comprehensive program involving pharmacology, chemistry, and molecular biology. The successful applicant will be given major responsibility for directing his or her own efforts and will be expected to contribute to evaluating and guiding the general research program. Qualified applicants will also be eligible for faculty appointments in the University of Utah Department of Physiology, which is adjacent to the company's facility. NPS offers competitive salaries and a full benefits package. Please send a résumé and the names of three references to: **Dr. Hunter Jackson, Natural Product Sciences Inc., 420 Chipeta Way, Salt Lake City, UT 84108. Natural Product Sciences Inc. is an Equal Opportunity Employer.**

POS. 952-POSTDOCTORAL FELLOW (PHARMACOLOGY/TOXICOLOGY) (School of Medicine, Department of Pharmacology). Salary: \$1750/monthly. Minimum qualifications: M.D. and/or Ph.D. in appropriate field. Experience in biochemical pharmacology, toxicology, and/or drug metabolism is desirable. Duties and responsibilities: Study the hepato- and nephrotoxic properties of chemical metabolites. Application deadline: 1 September 1988. Send résumé to: **Gary O. Rankin, Ph.D., Chairman, Department of Pharmacology, Marshall University School of Medicine, Huntington, WV 25755-9310. Available on or about 1 October 1988. Minorities are encouraged to apply. Applicants whose files are not completed by the deadline will not be considered.**

POSITIONS OPEN

POSTDOCTORAL APPOINTMENT IN MOUSE DEVELOPMENTAL GENETICS

Applications are invited to undertake research in the field of mouse developmental genetics and to participate in a project involving genetic manipulation of embryonic stem (ES) cells in vitro prior to reintroduction into the germ line as a route to transgenesis.

Experience in recombinant DNA techniques, and mouse genetics and embryology is essential. The appointment will be for a fixed term of up to 5 years depending on the experience of the successful candidate. Should a post with tenure be advertised during this period the successful candidate could be considered. Salary will be on the appropriate point of the scale for non-clinical university academic staff.

Enquiries may be made to: **Dr. S. Rastan on 01-864-5311 extension: 2510.** Application forms are available from: **The Personnel Department, extension 2673, quoting reference 102/1/3840.**

**The Clinical Research Centre
Watford Road
Harrow
Middlesex HA1 3UJ
England**

POSTDOCTORAL FELLOW to conduct collaborative research and Resonance Raman spectroscopic studies of metalloporphyrins and hemoproteins. Experimental design and technique development for the application of laser Raman techniques to biomedical/biophysical/biochemical problems. Require Ph.D. with major in biophysical chemistry. Demonstrated ability to perform stated duties. Salary: \$21,000 per year. Apply in person with résumé to: **Georgia Department of Labor, 2811 Lakewood Avenue, S.W., Atlanta, GA 30315, or to the nearest Georgia Job Service Center. Control #GA 5296574.**

University of Michigan: Unexpected immediate opportunity for **POSTDOCTORAL FELLOW** with synthetic or organometallic chemistry background to refine radiometal labeling of monoclonal antibodies. Well-equipped laboratory with multidisciplinary environment. Ideal position for the chemist desiring to apply chemical solutions to biological systems. Position is NIH-funded and applicants must be U.S. citizen or permanent resident. Please send curriculum vitae with name of two references to: **Richard L. Wahl, M.D., Division of Nuclear Medicine, University of Michigan Medical Center, Ann Arbor, MI 48109-0028. The University of Michigan is a non-discriminatory, Affirmative Action Employer.**

POSTDOCTORAL FELLOW/RESEARCH ASSISTANT PHYSIOLOGIST position available to study neural control of the cardiovascular and respiratory systems during exercise. Specific research projects include the investigation of the discharge properties of group III and IV muscle afferents, and the central and reflex regulation of airway caliber during exercise. Salary will be commensurate with experience and qualifications. Send curriculum vitae and two letters of reference to: **Marc Kaufman, Ph.D., Division of Cardiovascular Medicine, School of Medicine, University of California, Davis, CA 95616.**

POSTDOCTORAL FELLOWSHIP POSITIONS BIOCHEMISTRY NORTH CAROLINA STATE UNIVERSITY

Postdoctoral positions are available with: **Paul F. Agris**, studying structure and function of RNA's as determined by genetic engineering and NMR spectroscopy (500 MHz); **Stuart Maxwell**, structure and function of eukaryotic low-molecular-weight RNA and inter-hybridization; **Bill Miller**, transcriptional and post-transcriptional regulation of gonadotrophin genes by estrogen, progesterone and inhibin; and **Elizabeth Theil**, structure/function of mRNA, structure/function of cell specific proteins (ferritin), and Fe-Protein interactions (EXAFS, XANES). Send résumé, project(s) of interest and date of availability, plus three letters of reference to: **Paul F. Agris, Head Biochemistry Department, North Carolina State University, Box 7622, Raleigh, NC 27695-7622. NCSU is an Affirmative Action Equal Opportunity Employer.**

Molecular Genetics, Inc., a leading biotechnology company, is seeking two talented individuals to join our plant sciences group.

Senior Research Technician/Biochemistry

to participate in research related to desirable properties of corn kernel components. Applicants should possess good analytical skills, particularly with carbohydrates and proteins, and have a B.S. + 2.5 years' experience, or a M.S. + 2 years' experience in biochemistry, chemistry or related field. Experience in plant sciences is desired.

Senior Research Technician/Plant Sciences

to participate in research to improve nutritional quality of corn and other plants. Applicants should hold a B.S. or M.S. degree in plant biology or a related field and have a minimum of 3 years' experience with demonstrated skills in horticulture, plant tissue culture, and plant transformation. Basic recombinant DNA skills desired.

Molecular Genetics, Inc. offers a competitive salary and benefits package and a stimulating multidisciplinary research environment. Qualified applicants should submit a resume or c.v., a list of three references and salary requirements to the attention of Human Resources at: **Molecular Genetics, Inc., 10320 Bren Road East, Minnetonka, MN 55343. An EEO/AAP Employer.**



**Molecular
Genetics Inc.**

Research Scientist Gene Therapy

Enzo Therapeutics, Inc., a subsidiary of Enzo Biochem, Inc. seeks a scientist with experience in mammalian gene transfer techniques and the use of mammalian expression vectors. This scientist will have a major role in a growing research program in genetic control of infectious disease. Demonstrated leadership and communication skills are required. We offer a competitive compensation and benefits package. Please send resume to:

**Personnel Department - CB
Enzo Therapeutics, Inc.
325 Hudson Street
New York, NY 10013**

**ENZO
BIOCHEM, INC.**

Equal Opportunity Employer M/F

INVITRON

Chemist

MANAGER, ANALYTICAL QUALITY CONTROL SERVICES

This individual will be responsible for supervising the activities of a pharmaceutical quality control laboratory for the evaluation of biological products derived from mammalian cell culture. Prior experience managing a biochemically-oriented quality control laboratory with heavy emphasis in the area of assay development is essential. The successful candidate should have a Ph.D. and prior technical experience in physical, chemical and enzymatic methods for evaluating biological molecules including HPLC, LC, SDS-PAGE, tryptic mapping and carbohydrate analysis. Additionally, the successful candidate should have a good working knowledge of immunological methods for evaluating proteins. Strong management skills are essential. Please submit your resume to:



Michael G. Harris
VP, Human Resources
**INVITRON
CORPORATION**
4649 Le Bourget Drive
St. Louis, MO 63134

Equal Opportunity/Affirmative Action Employer

ASSISTANT DIRECTOR SCIENTIFIC COMPUTATIONAL SUPPORT CORNELL UNIVERSITY NATIONAL SUPERCOMPUTER FACILITY

The Cornell National Supercomputer Facility, a national multidisciplinary research center which has an IBM 3090-600E, is seeking a highly qualified individual to lead the Scientific Computational Support (SCS) group. The SCS group is responsible for providing training and support to a national base of scientific users. The Assistant Director of this group is responsible for overseeing existing programs and devising new ones to provide support and training to users, administering SCS budget, acquiring software tool and equipment as necessary, and providing direction and technical guidance to staff. The Assistant Director provides the public interface to the national research community and participates in long-range planning for the supercomputer facility as a whole.

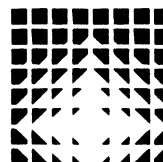
Requirements:

- Ph.D. in a scientific discipline preferred
- Minimum 5 years experience administering scientific projects and programs
- Detailed understanding of the principles and tools for scientific research in a supercomputer environment, including hardware, software, languages, and application design
- Broad knowledge of the wide range of issues which are central to the operation of a supercomputer facility
- Demonstrated ability to successfully work with Senior Scientists
- Excellent interpersonal and communications skills

Qualified candidates should forward a cover letter and resume to: Cynthia Smithbower, Staffing Services, Dept. 1902-S, CORNELL UNIVERSITY, 160 Day Hall, Ithaca, NY 14853.

In order to assure full consideration, applications must be received by August 15, 1988.

**CORNELL
THEORY
CENTER**



Applicants must meet employment eligibility requirements in accordance with the Immigration Reform and Control Act of 1986.

An Affirmative Action / Equal Opportunity Employer

RESEARCH SCIENTISTS

IIT Research Institute (IITRI), a not-for-profit research development organization has career opportunities in the Life Sciences Research Department for Ph.D. scientists.

RESPIRATORY TOXICOLOGIST

A Ph.D. degree in toxicology, physiology or related fields and knowledge of pulmonary physiology, pulmonary function assessment and respiratory sensitization are required. Experience in industrial or contract research is preferred, but a Postdoctoral scientist or a recent Ph.D. will also be considered. The candidate will be in charge of a state-of-the-art inhalation toxicology facility inclusive of pulmonary function and analytical chemistry laboratories. The candidate will serve as a study director and will supervise the conduct of studies, generation of protocols and SOPs, and preparation of final reports. Active participation in an ongoing research program exploring the mechanisms of pulmonary sensitization and inflammatory lung disease is expected.

IMMUNOLOGIST

The candidate must have a Ph.D. degree in immunology, microbiology or a related field and experience in pulmonary immunology and/or molecular biology techniques. The candidate will join a team of investigators studying biological response modifiers and immunomodulation in experimental animals. Responsibilities will include participation in ongoing research grants and contracts, preparation of research proposals, reports and publications, and supervision of junior technical staff.

U.S. citizenship or permanent U.S. residency is required. Salary commensurate with qualifications and experience. Please submit resume, including salary history, to Ms. L. Amft, Senior Personnel Representative, Dept. LA/34, IIT Research Institute, 10 W. 35th St., Chicago, IL 60616. Equal Opportunity/Affirmative Action Employer, M/F/V/H.



Postdoctoral Associate

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The Agricultural Division of CIBA-GEIGY Corporation, one of the world's foremost agricultural and specialty chemicals companies, is putting science to work. We're known for our commitment to research and the caliber of scientific professionals who share it. To maintain our leadership, we are currently seeking a Postdoctoral Associate to join us at our Biotechnology Research Unit located in Research Triangle Park, NC.

Working within our Plant Molecular Biology Department, you will utilize your skills in protein purification, enzymatic analysis and molecular biology to develop a project involving site-directed mutagenesis. A recent PhD in Biochemistry, Molecular Biology or a related field is essential; an interest in plants is helpful.

In return, we'll reward your commitment with a competitive salary and generous company-paid benefits. For prompt consideration, please submit your resume and 3 professional references, in confidence, to: Dr. Mary-Dell Chilton, CIBA-GEIGY Corporation, P.O. Box 12257, Research Triangle Park, NC 27709. We are an equal opportunity employer m/f/h/v.

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POSITIONS OPEN

POSTDOCTORAL POSITION available for work in cardiopulmonary physiological and biochemical research using newborn lambs as models for Sudden Infant Death Syndrome, and other pediatric respiratory disorders. Studies include control of respiration, carotid body function, hemodynamics, lung fluid balance, lung mechanics, etc. Experience in related areas preferred. Please send application to: **Dr. H. W. Sundell, Department of Pediatrics, Vanderbilt School of Medicine, Nashville, TN 37232.**

POSTDOCTORAL POSITION in molecular developmental genetics available fall/winter, 1988 in the Biology Division of the Oak Ridge National Laboratory. Project involves the molecular and functional characterization of regions of the mouse genome associated with radiation-induced deletion mutations. Background in genetics, molecular biology, and/or developmental biology desirable. Applicants should arrange for curriculum vitae, a brief statement of research interests, and three letters of reference to be sent to: **Dr. Eugene M. Rinchik, University of Tennessee—Oak Ridge Graduate School of Biomedical Sciences, P.O. Box 2009, Oak Ridge, TN 37831-8077. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION AVAILABLE immediately to study regulation of protein kinase C gene expression and/or function of PKC isoenzymes. Submit curriculum vitae and three letters of reference to: **Dr. Yusuf A. Hannun, Department of Medicine, Box 3355, Duke University Medical Center, Durham, NC 27710. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately for full-time participation in a research program studying the molecular genetics of human collagen disorders. Project involves patient screening, genomic cloning and DNA sequencing. Significant experience in molecular biology preferred but not required. Send curriculum vitae and names of three references to: **Dr. Jeffrey L. Doering, Department of Biology, Loyola University of Chicago, 6525 North Sheridan Road, Chicago, IL 60626. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION available to study the immunopathogenesis of *Chlamydia trachomatis*. Research will involve dissection of the host immune response to sequence-defined outer membrane constituents using molecular genetic techniques. Fellows participate in an active intercampus research program in molecular parasitology and infectious diseases. Applicants should have a strong background in immunological techniques. Send curriculum vitae and letters of recommendation to: **Dr. Richard S. Stephens, Proctor Foundation, University of California, San Francisco, CA 94143-0412. The University of California is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION—Available immediately for molecular biologist to participate in studies of plant DNA methylation and its role in mismatch repair and gene regulation using a geminivirus model system. Interactions with personnel investigating virus replication are expected. Applicants should have a strong background in molecular biology. Previous experience with plant protoplasts and transfection techniques is desirable. Submit curriculum vitae and names of three references to: **Dr. D. M. Bisaro, Biotechnology Center, 201 Rightmire Hall, 1060 Carmack Road, The Ohio State University, Columbus, OH 43210. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION: CELL CULTURE

Postdoctoral position available to conduct research in insect cell culture. Investigations to focus on the development of novel cell lines, serum-free media, and evaluation for the growth of viral pesticides and expression of recombinant proteins using baculovirus vectors. Experience in cell culture and molecular biology techniques desirable. Starting September, 1988. Submit curriculum vitae and names of three references to: **Dr. Robert R. Granados, Boyce Thompson Institute, Cornell University, Ithaca, NY 14853. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION Available immediately for a cell or molecular biologist to use antisense RNA techniques to study the roles of cytoskeletal and RNA-binding proteins in developing embryos [see Giebelhaus *et al.*, *Cell* 53, 601-615 (1988)]. Salary negotiable. Send curriculum vitae, names and telephone numbers of referees, and statement of research interests to: **Dr. Randy Moon, Department of Pharmacology, SJ-30, School of Medicine, University of Washington, Seattle, WA 98195.**

POSTDOCTORAL POSITION funded by NIH training grant. Available immediately for a recent Ph.D. to study molecular aspects of visual cortical plasticity. Candidates with a background in either molecular biology of gene expression or analysis of neurotransmitter systems (receptor binding, immunohistochemistry) will be considered. Send curriculum vitae and names of three references to: **George D. Mower, Ph.D., Division of Neuroscience, The Children's Hospital, 300 Longwood Avenue, G3, Boston, MA 02115.**

POSTDOCTORAL POSITION

Postdoctoral position available immediately to study motor neuron and target muscle interactions occurring during in vivo and in vitro embryonic development. A background in anatomical sciences and biochemistry is desirable. Please send curriculum vitae and three letters of recommendation to:

**Dr. G. S. Sohal
Department of Anatomy
Medical College of Georgia
Augusta, GA 30912**

POSTDOCTORAL POSITION DEVELOPMENTAL BIOLOGY to study changes in the number and subcellular distribution of receptors during synaptogenesis in vitro. Experiments involve cell culture, receptor binding assays, fluorescence-activated cell sorting, fluorescence microscopy and image analysis. Experience in one of these areas is preferred. Available immediately. Send curriculum vitae and list of references to: **Paul A. St. John, Department of Anatomy, University of Arizona, Tucson, AZ 85724. Applications will be accepted until position is filled. Equal Opportunity/Affirmative Action Employer.**

The Rockefeller University **POSTDOCTORAL POSITIONS**—are available immediately to join ongoing studies of gene expression and posttranslational protein modification in trypanosomes. Candidates should have a strong background in molecular biology or biochemistry, and an interest in understanding the regulation of antigenic variation or the mechanism of posttranslational addition of glycolipid anchors to membrane proteins. Applications, including curriculum vitae, a summary of research interests and experience, and names of three referees, should be sent to: **Dr. George A. M. Cross, Laboratory of Molecular Parasitology, The Rockefeller University, 1230 York Avenue, New York, NY 10021. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS—One position is available for using cDNAs and monoclonal antibodies, available in this laboratory, to study the assembly of vinculin into microfilament-associated cell junctions. A second position is available for analysis of the embryological development and molecular composition of striated muscle costameres. Background in either cell biology, molecular biology, or protein biochemistry is desirable. Send curriculum vitae and names of three references to: **Susan Craig, Department of Biological Chemistry, Johns Hopkins University School of Medicine, 725 North Wolfe, Baltimore, MD 21205.**

POSTDOCTORAL POSITIONS for teaching plus research, 1- and 2-year appointments starting August 1988. Typical teaching duties are introductory biology laboratory instruction: 12 contact hours, preparatory sessions, attendance at lectures, office hours. Research (half-time) is done in collaboration with a member of the faculty who provides facilities. To obtain more information or to apply, send curriculum vitae, three letters of recommendation, and a brief description of research interests and activities to: **Paul Megrew, Department of Biology, University of Iowa, Iowa City, IA 52242. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS are available in a program to design synthetic, gene-specific drugs. The project is based upon a collaboration between molecular biology and biophysics, employing cell culture methods, recombinant DNA techniques, novel methods of structure analysis and computer assisted molecular design. A background in cell biology, molecular genetics, or biological structure analysis is desired. Salary is very competitive and commensurate with experience, in a multidisciplinary research environment. Send curriculum vitae or call: **Dr. Michael Hogan, The Center for Biotechnology, Baylor College of Medicine, The Woodlands, TX 77381. Telephone: 713-363-8400. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS. Several funded positions are available immediately for studies of signal transduction in human neutrophils. Projects will involve purification of GTP binding proteins, functional studies, and reconstitution with chemoattractant receptors. Both artificial phospholipid vesicle and membrane reconstitution systems will be utilized for studies of the physical and functional interactions of receptor-G protein. Experience in membrane biochemistry, receptors, lipid vesicles is desirable, but not required. Send curriculum vitae and three references to: **Dr. Gary M. Bokoch, Ph.D., Research Institute of Scripps Clinic, IMM 12, 10666 North Torrey Pines Road, La Jolla, CA 92037. Telephone: 619-457-8217.**

POSTDOCTORAL POSITIONS (two) to study specific problems related to membrane structure and function using eukaryotic molecular genetic analysis. **Dr. Julia E. Lever, Department of Biochemistry and Molecular Biology, University of Texas Medical School, P.O. Box 20708, Houston, TX 77225. UTHSCH is an Affirmative Action Employer. Women and minorities are encouraged to apply.**

POSTDOCTORAL POSITIONS IN PORPHYRIN CHEMISTRY, AND PHOTODYNAMIC HERBICIDES AND INSECTICIDES

Several postdoctoral research positions are available: (i) Ph.D. in plant physiology or weed science for research and development of photodynamic herbicides; (ii) Ph.D. in insect physiology, insect biochemistry, or entomology for research and development of photodynamic insecticides; (iii) Ph.D. in organic chemistry for the study of the chemical structure of novel porphyrins. Address curriculum vitae and three letters of recommendations to: **Professor C. A. Rebeiz, Laboratory of Plant Pigment Biochemistry and Photobiology, 202 ABL, 1302 West Pennsylvania, University of Illinois, Urbana, IL 61801.**

POSTDOCTORAL AND RESEARCH ASSISTANT POSITIONS NUTRITIONAL ECOLOGY OF RUMINANTS

Positions available for study of: (i) feeding ecology and nutrition of *Ibex*, Israel (postdoctoral and research assistant) (ii) factors controlling intake and ingestion of grazing cattle (postdoctoral and research assistant) (iii) grazing behavior within different grazing systems (research assistant). Send résumé and names of three references to: **Dr. Montague Demment, Department of Agronomy and Range Science, University of California—Davis, Davis, CA 95616.**

POSTDOCTORAL RESEARCH ASSOCIATE/RESEARCH INSTRUCTOR POSITION, available immediately to study the mode of action of antipsychotic drugs and interactions between cholecystokinin and dopamine. Applicant should hold Ph.D. or M.D. degree with a strong neuroscience background. One year of experience with in vivo voltammetry and/or electrophysiological techniques is desirable. Salary range is from \$17,000 to \$20,000 per year. Send curriculum vitae and names of three references to: **Rex Y. Wang, Ph.D., SUNY at Stony Brook, Department of Psychiatry and Behavioral Science, Putnam Hall, South Campus, Stony Brook, NY 11794-8790. SUNY Stony Brook is an Equal Opportunity/Affirmative Action Educator and Employer, AK#181.**

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SENIOR SCIENTIST **(Experimental Surgery Section)**

REQUIREMENTS:

- *D.V.M. with postgraduate training and/or experience in laboratory medicine.
- *Surgical skills.
- *Strong communications skills.

Responsibilities include developing and implementing a laboratory animal care and use program; designing and performing biomedical suture and device evaluations; providing selected radiology services; supporting new device and technique training for medical personnel.

PRINCIPAL SCIENTIST **(Drug Metabolism)**

REQUIREMENTS:

- *PhD in Pharmacokinetics, drug metabolism, or related science.
- *Industrial experience in assessing pharmacokinetics and metabolism of drugs, chemicals and/or biologics.
- *Good Laboratory Practices experience.

Responsibilities include designing, construction, and monitoring studies of drug and protein absorption, distribution, metabolism, and excretion. Studies will entail non-clinical and clinical evaluations. Interactions with toxicological, medical, chemical and other scientific disciplines will be required. Excellent communications skills, both verbal and written, are necessary.

Ethicon offers an excellent starting salary and participation in an outstanding benefits package. Please forward resume with salary requirements, in confidence, to: Employment Manager, ETHICON, INC., a Johnson & Johnson Company, Route 22, Somerville, NJ 08876



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The Albert Einstein College of Medicine is seeking a senior scientist of distinction to assume overall administrative responsibility for the conduct of scientific affairs at our institution. Located in New York City, we are a major center for biomedical research and teaching.

The primary responsibilities of this position involve the planning and implementation of new research and training programs, identification of major new grant opportunities and creation of new scientific facilities. The Associate Dean will have a central role in budgetary planning for basic science departments, general oversight of the scientific shared services and facilities, research space allocation, and coordination of major lab renovation programs.

Please direct letters expressing interest, in confidence to:

Dr. Dominick P. Purpura, Dean
Albert Einstein College of Medicine
1300 Morris Park Avenue
Bronx, New York 10461
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MICROBIOLOGICAL ASSOCIATES INC.

MICROBIOLOGICAL ASSOCIATES has the following career opportunities for senior scientific personnel.

SENIOR SCIENTIST, GENETIC TOXICOLOGY

For this position in our world-recognized Division of Genetic Toxicology we seek an individual with 2+ years experience conducting assays for DNA damage and repair. Responsibilities will include developing and validating new tests to expand our current capabilities. Interactions with both commercial clients and government regulatory agencies require that the candidate have excellent communications skills. You will join our cytogenetics, mammalian and microbial mutagenesis teams in coordinated efforts to provide both R&D and commercial testing services.

MANAGER, MOLECULAR VIROLOGY

Applicants for this position should have a strong background in virology (preferably retroviruses) and molecular biology with 5+ years experience. This highly visible position will manage a staff of ten and the expected doubling of the group over the coming year. Responsibilities include contact with commercial clients, overseeing government contracts and research relating to HIV and other viruses, and the development and execution of commercial assays.

VIROLOGIST

Several new positions are now open within our expanding Biotechnology Services and Molecular Virology Divisions.

Other technical and scientific opportunities are currently available as a result of our growth. Our state-of-the-art facility is located in the northern suburbs of Washington, D.C. Please join us as we continue to build on our 40-year commitment to high quality science. For immediate consideration send your resume to:

Microbiological Associates Inc.
Life Sciences Center
9900 Blackwell Road
Rockville, MD 20850
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POSTDOCTORAL POSITION ELECTROPHYSIOLOGY

SIBIA is an established biotechnology company involved in a wide spectrum of innovative research programs. SIBIA, with a staff comprised of leading scientific staff members, provides an exceptional scientific research environment in which to work, near the ocean in La Jolla.

A postdoctoral position is immediately available to study the electrophysiological properties of recombinant ion channels and receptors expressed in *Xenopus* oocytes as well as mammalian and yeast cells. Experience with whole cell voltage clamp or patch clamp techniques is essential.

We offer a comprehensive benefits package and competitive salaries. For confidential consideration, please submit your curriculum vitae, a statement of research interests and goals, and the names of three professional references to: **SIBIA, Department 4061, 505 Coast Boulevard South, La Jolla, CA 92037.**

SIBIA

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MICROBIOLOGIST Antibiotic Development/Evaluation

ICI Pharmaceuticals Group, which includes Stuart Pharmaceuticals and ICI Pharma, is one of the fastest-growing producers of quality pharmaceuticals in the U.S. Current research activities are focused on the development of new products for the treatment of CNS diseases, pulmonary diseases, and hypertension. We have an opening for a microbiologist at our state-of-the-art laboratories in Wilmington, DE.

Responsibilities will be to plan, coordinate and implement studies to support international microbiological development of new antibiotics, as well as to participate in the pre-clinical/clinical microbiological development program needed for regulatory submissions.

Position requires a PhD in microbiology or MS degree with several years' experience in the development and evaluation of new antimicrobial agents and/or in the development of technology related to antibiotic development.

Applicants should be thoroughly familiar with the current/standard methodology as well as able to develop new/novel methods in the areas of susceptibility testing, bioassays, antibacterial evaluations, and the study of resistance development/potential.

We offer an excellent salary and benefits program and opportunities for professional growth.

Please send your resume including salary requirement, in confidence, to: **Paul M. Flynn, ICI Pharmaceuticals Group, Wilmington, DE 19897.**



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G.D. Searle is a worldwide leader in the pharmaceutical industry with constant innovation and continuing commitment to high performance standards. To ensure progress in these areas within our Pathology Department, we seek an Anatomist, Pathologist, or Cell Biologist to oversee our electron microscopy laboratory.

The selected candidate will collaborate with Searle pathologists and toxicologists, as well as pharmacologists and other scientists to design and conduct studies. The scientist we seek must have a Ph.D. and 3-5+ years experience with electron microscopy and morphometry. Some background in non-biological specimen work and x-ray analysis is helpful. Superior communication skills are essential.

We offer a stimulating scientific environment, growth potential, with excellent compensation and benefits. For consideration, please contact our representative at the EMSA meeting August 8-12. Or send your resume and salary history to: **G.D. Searle, Human Resources Dept. DW25, 4901 Searle Parkway, Skokie, IL 60077.** Equal Opportunity Employer M/F.

SEARLE

PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES RESEARCH TRIANGLE PARK, NORTH CAROLINA DIRECTOR, DIVISION OF INTRAMURAL RESEARCH A SENIOR EXECUTIVE SERVICE VACANCY

The National Institute of Environmental Health Sciences (NIEHS) invites nominations and applications for the position of Director, Division of Intramural Research. This is a Civil Service position in the Senior Executive Service (SES) with a salary range of \$65,994 to \$73,400 per annum. In addition, M.D. candidates may be eligible for a Physician's Comparability Allowance up to \$20,000 per year. (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) A one-year probationary period must be served if the individual selected is not currently in the SES.

The Division of Intramural Research plans and conducts the Institute's basic laboratory research programs which encompass the areas of cellular and molecular pharmacology, genetics, molecular biophysics, molecular carcinogenesis, molecular genetics, molecular and integrative neurosciences, pulmonary pathobiology, reproductive and developmental toxicology and an animal facility.

As Director for the Division of Intramural Research, the incumbent manages and directs a staff of approximately 397 employees and manages a budget of approximately \$17.5 million. DIR is composed of eight laboratories and a branch conducting bench research in-house and by contract. The incumbent evaluates research efforts and establishes Programs' priorities; allocates funds, space, and personnel ceilings and integrates ongoing and new research activities into Programs' structure; collaborates with other organizations, and NIH programs; and provides advice to the Institute Director and staff on matters of scientific interest. As a national expert in the field of environmental health, the incumbent serves as expert consultant within the United States and abroad.

Candidates must meet the following professional and managerial qualifications:

Mandatory Qualification Requirements

This is a multidisciplinary position. All candidates must: (1) meet the minimum educational requirements for either: (a) Biologist, GS-401, (b) Chemist, GS-1320, (c) Medical Officer, GS-602, (d) Pharmacologist, GS-405, (e) Microbiologist, GS-402, (f) Physiologist, GS-413, or (g) Geneticist, GS-440, as described in the U.S. Office of Personnel Management Handbook X-118 (Qualification Standards for Positions under the General Schedule) which is available in Federal Job Information Centers and Federal Personnel Offices; and (2) Biomedical research experience at the GS/GM-15 grade level or equivalent which reflects demonstrated abilities to develop, implement and administer intramural research programs using the multidisciplinary research approaches to environmental health; considerable experience involving research, analysis and evaluation of data related to the study of biological and hazardous effects of chemical, physical and biological substances found in the environment.

Mandatory Managerial/Executive Qualifications

The incumbent must have had extensive experience of sufficient scope to carry out the managerial duties of the position. Experience must have included progressively responsible experience in directing, guiding and managing complex research projects and/or programs. Must have demonstrated possession of: (1) a broad knowledge of and demonstrated ability to apply management practices and principles related to planning, organizing, staffing, directing, allocation of resources and coordinating complex research programs; (2) ability to develop policy and establish short-term and long-term goals,

priorities and objectives for complex programs; (3) ability to deal with diverse and complex problems through application of analytical and decision-making skills; (4) ability to select, develop and utilize a subordinate staff, including a demonstrated positive attitude regarding the implementation of an equal opportunity program; (5) ability to represent the organization and deal effectively with high level governmental officials, the scientific and academic communities, national/international professional organizations and societies and the general public; and (6) skill and ability to conduct analysis and evaluation of programs.

Candidates who meet the mandatory qualifications will be further evaluated on the following factors: training and education; research experience and leadership of a research program in or related to environmental health; scientific reputation/peer recognition; honors and awards; and additional managerial/executive qualifications in excess of the mandatory level.

Further information about the position and qualification requirements may be obtained by calling Bruce Wiggins, Supervisory Personnel Management Specialist at 919-541-3317. U.S. Citizenship is required.

Resumes are not acceptable applications for entrance into the Senior Executive Service. Applications, SF-171 (available at all Federal Job Information Centers and Federal Personnel Offices) accompanied by a current curriculum vitae and bibliography should be submitted not later than August 19, 1988 to:

Bruce Wiggins (Code: HNV2)
NIEHS Personnel Office
P.O. Box 12233
Research Triangle Park, NC 27709

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

POSITIONS OPEN

TWO POSTDOCTORAL POSITIONS available immediately to study mechanisms of inhaled anesthetic toxicity. One is in the area of nephrotoxicity in disease states and with drug interactions. Experience in renal physiology/pharmacology/toxicology, biochemical analyses, and rodent surgery preferred. The second is in the area of nitrous oxide induced developmental and functional deficits. Experience in neuro-pharmacology/toxicology, behavioral testing, and biochemical and neurochemical analyses preferred. Please send curriculum vitae and names of three references to: **Susan Rice, Ph.D., Department of Anesthesia, Stanford University School of Medicine, Stanford, CA 94305.**

POSTDOCTORAL/RESEARCH ASSOCIATE

Postdoctoral position in lipids, lipoproteins, and bile composition. Focus is on gallstones and apolipoprotein synthesis by dietary factors. Experience with HPLC, lipid analysis, or regulation of gene expression is desirable. Send curriculum vitae and names of three references to: **K. C. Hayes, Foster Biomedical Research Laboratory, Brandeis University, Waltham, MA 02254.** An Equal Opportunity/Affirmative Action Institution.

POSTDOCTORAL RESEARCHER: Required immediately to work on the cloning, sequencing and active-site directed mutagenesis of 3-alpha-hydroxysteroid dehydrogenase. This enzyme plays a pivotal role in androgen and chemical carcinogen metabolism. Experience in areas of molecular biology and enzymology desirable. Salary and position title commensurate with experience. This is an NIH-funded position and is available for 1 to 3 years. Opportunities for promotion may exist for a productive individual. Please send curriculum vitae and names of three references to: **Dr. Trevor M. Penning, Department of Pharmacology, University of Pennsylvania School of Medicine, PA 19104-6084.**

YALE MEDICAL SCHOOL DEPARTMENT OF CELLULAR AND MOLECULAR PHYSIOLOGY

An NIH **POSTDOCTORAL TRAINING GRANT POSITION** is available immediately to study the molecular biology of the Ca-gated K channel (Gardos) as expressed in red blood cells and other cell lines. Approaches include labeling, purifications, antibiotics, probes, cloning, expression, reconstitution and transport function. Background in biochemistry and cellular physiology desirable. Send curriculum vitae and two letters of reference by 15 August to: **Joseph F. Hoffman, Department of Cellular and Molecular Physiology, Yale Medical School, 333 Cedar Street, New Haven, CT 06510.** Yale University is an Equal Opportunity Employer.

PROFESSOR AND HEAD DEPARTMENT OF LABORATORY MEDICINE AND PATHOLOGY UNIVERSITY OF MINNESOTA MEDICAL SCHOOL MINNEAPOLIS, MINNESOTA

The University of Minnesota Medical School is seeking outstanding candidates for the position of Professor and Head of the Department of Laboratory Medicine and Pathology. The successful candidate will have a medical degree (M.D. or equivalent), strong record of federally funded research in modern aspects of pathology and/or laboratory medicine, extensive experience in academic teaching and service roles, and demonstrated leadership abilities. The candidate should have administrative experiences necessary to direct a large, multifaceted department, including a pathobiology graduate (Ph.D. degree) program. The Medical School has placed a high priority on this position and will maintain this Department as one of the top departments in this discipline. Applications and nominations, to be received no later than 1 October 1988, (including names and addresses of three referees) should be sent to:

Dr. Alfred F. Michael
Chair, Search Committee for
Head of Laboratory Medicine and Pathology
University of Minnesota Medical School
Box 391 UMHC
516 Delaware Street SE
Minneapolis, MN 55455

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

POSITIONS OPEN

POSTDOCTORAL TRAINEESHIPS IN PARASITOLOGY/VECTOR BIOLOGY available in biochemistry/pharmacology of parasitic helminths (**Saz**); Immunoparasitology/African trypanosomiasis (**Diffley**); In vitro cultures/developmental biology of filariids (**Weinstein**); Insect biochemistry/endocrinology (**Fuchs**); Arboviral epidemiology (**Grimstad**); Ecological genetics of *Aedes* (**Craig**) and Genetics/vector competence of *Aedes* (**Rai**). Appointments start 1 September 1988. Candidates must be U.S. citizens or permanent residents. Minorities encouraged to apply. Send résumé and three references to: **Dr. K. S. Rai, Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORALS IN MUCOSAL IMMUNITY—Two postdoctoral positions, 2 years minimum beginning 1 October 1988; salary between \$23,000 and \$27,000 per year. (i) Development of mucosal immunity (rodents); (ii) senescence of mucosal immunity (primates). Experience: immunochemistry, immunohistochemistry, cell and molecular biology techniques. Join large intestinal immunology research group. Send curriculum vitae and letters to: **D. L. Schmucker or A. L. Jones, 151E, VAMC, 4150 Clement Street, San Francisco, CA 94121.** UCSF/VAMC Equal Opportunity Employers.

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE SOUTHERN FOREST EXPERIMENT STATION

PROJECT LEADER/SUPERVISORY RESEARCH PLANT PATHOLOGIST. USDA-FS, Southern Forest Experiment Station, is seeking a research plant pathologist to lead a team of researchers on fusiform rust, needle cast diseases (a new one with unknown causes(s)) and nursery diseases (replacement for methyl bromide). Knowledge of plant or fungal genetics and forest pathology are required. Salary range is GM-13/14 (\$39,501 to \$46,679). Information concerning the position may be obtained from: **Personnel Management, Room T-10210, USPSB, 701 Loyola Avenue, New Orleans, LA 70113.** Telephone: 504-589-3921. The USDA is an Equal Opportunity Employer.

University of Minnesota Department of Radiology has an annual-renewable position available for a **RADIO-CHEMIST** at the rank of assistant professor beginning 16 September 1988. The individual must have a Ph.D. in chemistry with specialization in synthetic organic chemistry. The individual must have documented research and experience in synthesis and radiolabeling of analogs of MPTP. The individual must also have experience in safe handling of neurotoxins; synthesis of non-classical nucleotides as potential antiviral agents; animal handling to determine the biodistribution of these compounds and potential adverse effects; ability to perform autoradiographic analysis of animal specimens and should be comfortable with quantum mechanical modeling to determine structure activity relationships of potential radiopharmaceuticals. An interest in the application of supercomputer based algorithms to this modeling is desirable. Responsibilities include the areas mentioned above and graduate and undergraduate teaching in radiochemistry and medicinal chemistry. Salary is negotiable and competitive, and is dependent upon past scholarly activity and post-Ph.D. experience. Applications for this position will be accepted through 31 August 1988. Send letter to: **Dr. Robert Boudreau, Director of Nuclear Medicine, Department of Radiology, University of Minnesota Medical School, Box 382 UMHC, 420 Delaware Street, SE, Minneapolis, MN 55455.** The University of Minnesota is an Equal Opportunity and Affirmative Action Educator and Employer and specifically encourages applications from women and minorities.

RESEARCH ASSISTANT POSITION IN NEUROBIOLOGY: 1- to 3-year position available 1 August 1988. Depending upon qualifications, salary will be \$18,000 to \$23,000 per year with benefits. Experience in general histology, HRP histochemistry, immunocytochemistry, and microtomy desirable, and some knowledge of microsurgery, electrophysiology, or electron microscopy an asset. Duties will include maintenance of animal care facility and coordinator of laboratory. May also direct undergraduate research project. Submit curriculum vitae and two references to: **Dr. Dwayne D. Simmons, Natural Science Division, Pepperdine University, Malibu, CA 90265.**

POSITIONS OPEN

RESEARCH ASSISTANT/ASSOCIATE PROFESSOR. An experienced individual to manage a multi-user facility for time and frequency-domain fluorescence spectroscopy. He/she should be able to assist in experimental design and data analysis, have wide experience with fluorescence spectroscopy and a desire to establish an independent research program. Send résumé, three letters of recommendation and reprints to: **Dr. Joseph R. Lakowicz, University of Maryland, School of Medicine, Department of Biological Chemistry, 660 West Redwood Street, Baltimore, MD 21201.** Deadline for receipt of applications is 15 September 1988. The University of Maryland is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE, Ph.D. in biochemistry or pharmacology to conduct studies in the control of the perinatal pulmonary circulation. Experience in eicosanoid biochemistry, RIA and HPLC techniques required. Background in microcirculation and vascular smooth muscle work preferred. Send résumé to: **J. Usha Raj, M.D. Research and Education Institute Harbor-UCLA Medical Center 1124 West Carson Street, A-1 Annex, Personnel Department, Torrance, CA 90502.**

RESEARCH ASSOCIATE: Ph.D. in molecular biology or biochemistry with minimum of 5 years of postdoctoral training required for established laboratory in genetic control of protein structure and synthesis. Supervise and execute research program in DNA cloning and sequencing. Train undergraduates, graduates and postdocs. Publications demonstrating proficiency in recombinant DNA techniques, protein chemistry and protein sequencing. Ability to obtain own research funding. Long term position. Salary \$30,000; minimum 40 hours per week. *Women and minorities encouraged to apply.* Job Order Number NC 7108531. Send curriculum vitae and three letters of reference to: **Job Service, 317 Caldwell Street Ext., Chapel Hill, NC 27514,** or nearest Job Service Office.

RESEARCH ASSOCIATE

Positions are available immediately to carry out research in the area of cytokines and tumor biology. Specific studies include elucidating the mechanisms involved in cytokine regulation of normal and leukemic hematopoiesis, use of cytokines to enhance chemotherapeutic efficacy, and evaluating immunologic functions of patients in clinical trials involving monoclonal antibodies and cytokines. Excellent opportunity for growth, independent development and collaboration in active research group within an expanding cancer research center. Send curriculum vitae and names of three references to: **Dr. Candace S. Johnson, Laboratory of Experimental Hematology, AMC Cancer Research Center, 1600 Pierce Street, Denver, CO 80214.** AMC is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE

Perform experimental research in microbial O-alkylation of lignins. Isolate, screen and identify transmethy-lating microorganisms, isolate and characterize methyl-transferase, optimize culture conditions for maximal induction of enzyme. Evaluate selected microorganisms for photostabilization of mechanical and chemical pulps by O-alkylation of phenolic groups in lignin using spectrophotometric and chromatographic (thin layer, gas and high-pressure liquid chromatography) techniques. Ph.D. in food science with concentration in industrial microbiology plus 1 year of experience in the job offered or 2 years of experience as a researcher involved in biodegradation of ligno-carbohydrate complexes and enzymes involved in lignin degradation required. Forty hours per week; \$22,000 per year. Send résumé to: **NYS Job Service, 677 South Salina Street, Syracuse, NY 13202.** IN# 51 JO# NY 0004038.

RESEARCH ASSOCIATE: Postdoctoral position to study the role of atmospheric nitrogen deposition in nitrogen concentrations and acidification of drainage waters. Strong background in biogeochemistry, data analysis, computer modeling and statistics required, as well as demonstrated ability to conduct independent research. Submit curriculum vitae and three letters of reference to: **Dr. Charles T. Driscoll, Department of Civil Engineering, 220 Hinds Hall, Syracuse University, Syracuse, NY 13244** by 15 August 1988. Syracuse University is an Equal Opportunity/Affirmative Action Employer.

ANNOUNCEMENT FOR TWO POSITIONS

OFFICE FOR RESEARCH/AGRICULTURAL EXPERIMENT STATION
COLLEGE OF AGRICULTURE
THE PENNSYLVANIA STATE UNIVERSITY

TITLE: Assistant Dean for Research

DESCRIPTION: Assistant Deans for Research (Assistant Directors of Agricultural Experiment Station) work closely with the Dean and Associate Dean for Research in the development, coordination and review of College research programs. They are a part of the Office for Research in the College, led by the Associate Dean for Research. Responsibilities include working with faculty and academic unit leaders to establish research priorities, and facilitating the development and implementation of disciplinary and inter-disciplinary research programs. The Associate and Assistant Deans for Research share responsibility for identifying potential government, foundation and private sector funding sources. The Office for Research will be composed of an Associate Dean, two Assistant Deans and six support staff. Approximately 250 College of Agriculture faculty are involved in research at the University Park campus and three outlying field research laboratories.

QUALIFICATIONS: An earned doctorate in agricultural or related sciences with a notable record of achievement in agricultural research. Ability to work with and motivate faculty. Demonstrated ability to secure extramural funds.

SALARY: Competitive and commensurate with background and experience. An attractive benefits package is available.

AVAILABILITY: Positions are available immediately.

APPLICATION: Applicants should submit a letter of application and resume to Dr. A. J. Turgeon, Chairman, Search Committee, 405G Agricultural Administration Building, University Park, PA 16802

CLOSING DATE FOR APPLICATIONS: August 15, 1988, or until suitable candidates are identified.

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Women and Minorities Encouraged to Apply*

PRINCIPAL RESEARCH SCIENTIST/ TUMOR BIOLOGIST

CYTOGEN is dedicated to basic research and product development in oncology and cardiovascular disease. Our goal is to determine the full medical potential of unique monoclonal antibody linking technologies and drug delivery systems.

The Principal Research Scientist will be responsible for managing the Tumor Biology Research Laboratory and developing new in vivo assay methods and murine tumor models which evaluate the diagnostic and therapeutic utility of novel monoclonal antibody immunoconjugates.

A PhD in Immunology, Pharmacology, Biology or related field, 3-5 years experience in tumor biology and strong managerial/supervisory capabilities are essential. Candidates must have expertise using nude mice for the propagation of human tumors, knowledge of radioisotopes for pharmacokinetics studies and "hands-on" experience with tumor transplantation and drug administration in laboratory animals. Some industrial experience preferred.

At CYTOGEN, you'll receive a competitive salary and benefits package. For confidential consideration, please submit resume with salary history and requirements to: **Recruiting Supervisor, Cytogen Corp., 600 College Road East, Princeton, New Jersey 08540.** An equal opportunity employer m/f.

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Postdoctoral Scientist

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The successful candidate will have a Ph.D. in Pharmacology, Anatomy or a related field with experience in tissue processing for histopathology and autoradiography. Knowledge of computer based densitometry or autoradiography systems preferred.

Interested candidates should send a resume to:
**Ms. Erin Moore,
DuPont Company,
331 Treble Cove Road,
N. Billerica, MA 01862.
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The National Research Council is Canada's leading federal research organization. NRC's laboratory projects cover most areas of the physical sciences, natural sciences and engineering.

Applicants for Research Associateships should have recently acquired a Ph.D. in science or a Master degree in an engineering field or expect to obtain the degree before taking up the Associateship.

Associateships are open to nationals of all countries although preference will be given to Canadians.

Research Associates will be offered appointments to the staff of the National Research Council on a term basis and will be offered salaries and benefits currently available to members of the continuing staff. As a guide, the current annual Ph.D. recruiting rate is \$33,661 (CAN) (under review).

The initial appointment will normally be for a two-year term and may be renewed, subject to the Associate's performance and subject to the requirements of the Division.

Applications must be made on special application forms which may be obtained from the **Research Associates Office, National Research Council of Canada, Ottawa, Ontario, Canada, K1A 0R6.** Applications and supporting documents must be received in Ottawa no later than **30 November 1988.**

Canada

POSITIONS OPEN

RESEARCH ASSOCIATE

The position involves multidisciplinary approaches to study the cellular and molecular mechanisms of the host immune responses to HIV and its gene products which will develop new approaches to the characterization of HIV immunity in AIDS. The applicant should have a Ph.D. or M.D. degree and a strong background in retrovirology, molecular biology, and immunology.

The candidate should be familiar with tissue culture techniques for the growing of HIV immunophenotyping of cells, host cytotoxicity against HIV infected target cells, and the activation and differentiation of T and B cells by HIV gene products. Send curriculum vitae and list of references to: **James M. Reuben, Ph.D., Division of Laboratory Medicine, 73, University of Texas M.D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030.**

RESEARCH SCIENTISTS IMMUNOLOGY AND CELL BIOLOGY

Cutter Biological, Division of Miles Inc. is seeking experienced investigators as key members of a multidisciplinary research team dedicated to development of novel anti-infective and anti-inflammatory therapeutics based upon either monoclonal or recombinant DNA technologies. The positions require a Ph.D. degree plus at least 4 years of postdoctoral experience.

IMMUNOLOGIST (ET): Experience in the area of leukocyte biology as it relates to immune and inflammatory phenomena is required. Familiarity with assay methods for immunomodulators, cell culture and immunopharmacology is desired.

IMMUNOLOGIST (NT): The successful candidate will possess a broad scientific background and specialized expertise in monoclonal technology, T-cell biology or immune regulation. A demonstrated ability to conduct independent and creative research is required.

A subsidiary of Bayer AG of West Germany, Cutter is a leader in the worldwide healthcare industry. We offer an excellent salary, benefits and relocation package and the cultural and recreational advantages of our location in the San Francisco Bay Area. Send your résumé and salary history to: **J. McHugh, P.O. Box 1986, Berkeley, CA 94701.** We are an Equal Opportunity/Affirmative Action Employer.

SCIENTIFIC COLLECTIONS REGISTRAR

The Department of Herpetology and Ichthyology of the American Museum of Natural History is seeking a collection registrar to organize and actively participate in the computerization of separately catalogued collections of fishes, amphibians, reptiles, and bibliographic resources. Assist curators in the integration of data base projects and their collection management activities.

Required are a baccalaureate degree in the biological sciences; some related collection experience and experience with microcomputers including BASIC plus another language. Knowledge of systematics helpful.

Salary: Low twenties. Excellent benefits include 15 vacation days, major medical/dental and tuition assistance. Submit résumé to: **Mr. Lee Vilensky, Personnel Department (S), American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.** An Equal Opportunity Employer.

TEACHING POSITION—ECOLOGIST. The Department of Biology, Emory University, invites applications for a teaching position at the assistant professor rank for a nontenure-track, 1-year term beginning in September, 1988, with a possibility of renewal for up to 3 years. The successful applicant should have primary training in community or ecosystem ecology, and must present evidence of high quality teaching. Responsibilities will include teaching courses in introductory ecology and environmental science, serving as advisor to students in an interdisciplinary ecology program, and teaching more advanced courses, possibly including a graduate course. The candidate may become involved in supervising undergraduates in independent research. Send curriculum vitae, a statement on your experience and interests in teaching, and have three letters of recommendation sent to: **Dr. Gray F. Crouse, Chairman, Department of Biology, Emory University, Atlanta, GA 30322.** Review of applications will begin immediately and the position will remain open until filled. *Emory is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

TUFTS UNIVERSITY— MEDICAL SCHOOL SENIOR FACULTY POSITION IN PATHOLOGY JEDDAH, SAUDI ARABIA

Applicants are being solicited for a pathologist to work in Saudi Arabia under a U.S. Treasury-sponsored program in conjunction with Tufts University to provide technical assistance to King Abdulaziz University, Jeddah, Saudi Arabia. Candidate must possess an M.D. with Anatomic Pathology training, experience in diagnostic Electron Microscopy, teaching and research are desirable. The selected candidate should be able to provide high-quality teaching and training of Saudi faculty and staff and to serve as a consultant to the medical faculty and hospital personnel.

The project provides overseas allowances, housing, vehicle, educational allowance for children, round trip air fare tickets for the family, shipping of household items, and others. The appointment is for 1 year commencing 1 September 1988 or as soon after as possible, with an opportunity for renewal. Salary will be commensurate with qualifications and experience. Candidates for the position must submit a detailed résumé and three letters of recommendation to:

**Martin H. Flax, M.D., Ph.D.
Professor and Chairman
Department of Pathology
Tufts University School of Medicine
136 Harrison Avenue
Boston, MA 02111**

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AWARDS

The Rosenstiel School of Marine and Atmospheric Science of the University of Miami seeks nominations for the **ROSENSTIEL AWARD.**

The Rosenstiel Award is presented annually to recognize outstanding achievement and distinction in oceanographic science. This year's award will be presented for excellence in the field of marine geology and geophysics. Nominations including a curriculum vitae and the names of three referees should be sent to: **Dr. Garrett W. Brass, Chairman, Rosenstiel Award Committee, Division of Marine Geology and Geophysics, 4600 Rickenbacker Causeway, Miami, FL 33149.**

FELLOWSHIPS

University of Michigan: **POSTDOCTORAL FELLOWSHIP** available for recent Ph.D. or M.D., Ph.D. in immunology or relevant related field with expertise in immunoglobulin genetics and protein expression. Specific project involves cloning, modifying and expressing DNA for a murine monoclonal antibody with high-level reactivity with many carcinomas, for eventual targeted cancer therapy. Multidisciplinary laboratory with support available at various levels for the proposed work. For M.D. applicants, program may be tailored to allow for eventual board certification in nuclear medicine. Opportunity greatest for the venturesome. Please send curriculum vitae and names of two references to: **Richard L. Wahl, M.D., Division of Nuclear Medicine, University of Michigan Medical Center, Ann Arbor, MI 43109-0028.** Applicants must be U.S. citizen or permanent resident. *The University of Michigan is a Nondiscriminatory, Affirmative Action Employer.*

FELLOWSHIPS IN EYE-IMMUNOLOGY. Vision-Immunology Center, University of Connecticut Health Center, Farmington, Connecticut. Research in ocular aspects of inflammation and repair with emphasis on cell and molecular biology, coagulation, fibrin metabolism, plasminogen activator regulation and transplantation. Ph.D., M.D. or equivalent; experience in cell or molecular aspects of inflammation, immunology or cell biology preferred. Available January 1989. Applicants must be eligible for NIH Training Grant salary support. Send curriculum vitae and requests for information to: **Dr. Donald L. Kreutzer, Vision-Immunology Center, University of Connecticut Health Center, Farmington, CT 06032.** An Affirmative Action/Equal Opportunity Employer M/W/H.

FELLOWSHIPS

A **TWO-YEAR FELLOWSHIP** in clinical chemistry with particular emphasis on molecular biology is available beginning July, 1988. Applicants with either M.D. or Ph.D. degree may apply, however, research interest and experience in molecular biology techniques is a requirement for this position. Please contact: **Anna Roman-Koller, University of Pittsburgh, School of Medicine, Department of Pathology, 776 Scaife Hall, Pittsburgh, PA 15261.** *The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.*



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PREDOCTORAL AND POSTDOCTORAL FELLOWSHIPS are available to work in one of the most rapidly progressing fields of immunology. Our work centers on blood cell formation, with particular emphasis on learning how B lymphocytes are made in bone marrow. Regulated gene expression is being explored in cloned bone marrow stromal cells and the lymphocytes which are functionally and developmentally dependent upon them. The latter are represented by normal lymphocytes sorted from bone marrow, cloned stromal cell dependent lines, and tumor cells. Our laboratories are well equipped for cell culture and routine molecular biology studies. Core facilities include peptide and oligonucleotide synthesis, gas phase microsequencing, computer analysis of DNA and protein sequences, molecular graphics, hybridoma production, electron microscopy and flow cytometry. Applications are particularly encouraged from individuals with strong backgrounds in cellular and/or molecular biology. Address inquiries to:

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Immunobiology Program
Oklahoma Medical Research Foundation
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Oklahoma City, OK 73104**

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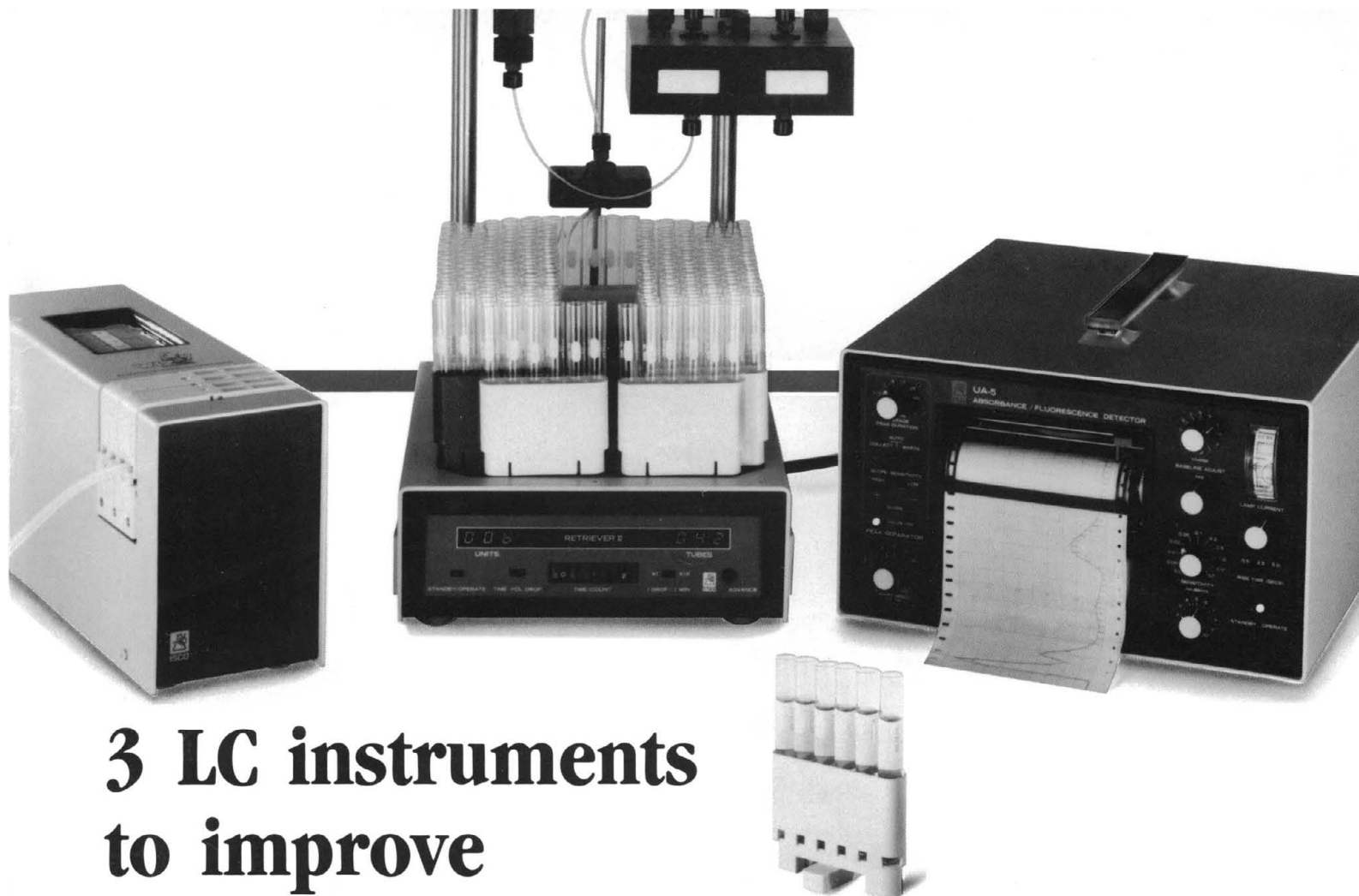
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