

recommend the book as a way for newcomers to learn about the field; there is too much to wade through before one gets to the good stuff. Nonetheless, many of the chapters are first-rate; readers will want to assign some of them to their students and to debate others with colleagues.

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Some Other Books of Interest

Science in Ireland, 1800–1930. Tradition and Reform. JOHN R. NUDDS, NORMAN D. McMILLAN, DENIS L. WEARE, and SUSAN M. P. McKENNA LAWLOR, Eds. Privately published, Dublin, 1988 (available from Department of Pure and Applied Physics, Trinity College, Dublin). 208 pp., illus. Paper, £11.00. Based on a symposium, Dublin, March 1986.

"Why did Ireland [in the late 18th and 19th centuries] produce so many notable figures in the history of science?" ask the editors of this volume. Recognizing the difficulties of answering such a question,

they here set out to achieve the "lesser, simpler goal" of establishing "a greater awareness of the fact itself." The volume opens with a group of papers on mathematical activities: I. Grattan-Guinness on research and instruction "from the founding of the Royal Irish Academy in 1782 up to 1840, by which time Ireland possessed three figures of international repute," namely William Rowan Hamilton, Humphrey Lloyd, and James MacCullagh; W. H. Brock on mid-19th-century reforms in mathematical education, featuring John Tyndall, George Salmon, and John Perry; and considerations by other authors of MacCullagh, Hamilton, George Boole, George Gabriel Stokes and William Thomson. A section on astronomy includes an overview by Lawlor and accounts by others of the Reverend John Brinkley's tenure at Dunsink Observatory and of two enterprises of the Earls of Rosse, the six-foot reflecting telescope (once the largest in the world) and the "lunarscope," intended for measuring lunar temperature by focusing infrared radiation. Finally, under the heading Experimental Science, are presented discussions of Humphrey Lloyd as a "scientific diplomat"; Heinrich Hertz's correspondence with George Francis Fitz-

Gerald; the Reverend Samuel Haughton's place "as a principal . . . alongside Kelvin" in the debate over the age of the earth; the careers of the "polymath" John Joly, of Mary Ward, "wife, mother, microscopist and astronomer," and of Robert Woods, "a neglected biophysicist"; and events in the establishment of submarine telegraphy.

—K.L.

The Art of Geology. ELDRIDGE M. MOORES and F. MICHAEL WAHL, Eds. Geological Society of America, Boulder, CO, 1988. viii, 140 pp., illus. \$37.50. GSA Special Paper no. 225.

The "art" that this latest contribution from the Geological Society of America's centennial publishing project most immediately demonstrates is that of photography. Composed primarily of illustrations submitted for the cover of the society's journal *Geology*, the volume consists of some 70 groups of often spectacular color photographs chosen "to convey the visual beauty of Earth and its neighbors as seen from a geologic perspective." A few satellite images and micrographs are included, but for the most part the scenes shown are such as to be observable under ordinary conditions. About half the groups show formations from parts of the United States, including Alaska, Hawaii, the Appalachians, and Central Park but with a preponderance of western formations—the San Andreas fault, the Grand Canyon, Utah's sandstone arches, California's tufa pinnacles, and Wyoming's devil's tower, among others. Additional areas of the world represented include China (tower karst), Indonesia (Tambora Volcano), Iran (the Zagros Mountains), Egypt (the Suez rift), Spain (thrust faults), Iceland, Canada, Mexico, Brazil, Peru, Chile, and Antarctica. Venus, Mars, and Io, but not our Moon, are also represented. Incidental subjects of the photographs include a number of humans, some buildings, and at least one poodle but (for a geology book) relatively few rock hammers and pens. Brief, non-technical captions accompanying each group explain some of the relevant geology.—K.L.

Books Received

Agent Orange and Vietnam. An Annotated Bibliography. Caroline D. Harnly. Scarecrow Press, Metuchen, NJ, 1988. xii, 401 pp. \$37.50.

Algebraic, Extremal and Metric Combinatorics, 1986. M.-M. Deza, P. Frankl, and I. G. Rosenberg, Eds. Cambridge University Press, New York, 1988. x, 245 pp. Paper, \$34.50. London Mathematical Society Lecture Note Series, vol. 131. Based on a conference, Montreal, Quebec, July-Aug. 1986.

Aneuploidy. Part B, Induction and Test Systems. Bladev K. Vig and Avery A. Sandberg, Eds. Liss, New York, 1988. x, 342 pp., illus. \$160. Progress and Topics in Cytogenetics, vol. 7B.

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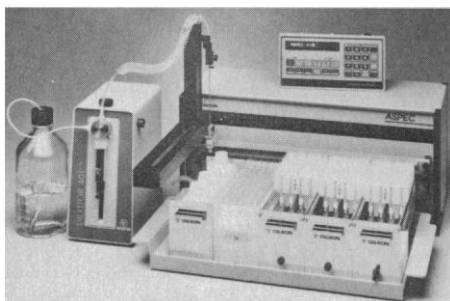
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- Biomedical Magnetic Resonance Imaging.** Principles, Methodology, and Applications. Felix W. Wehrli, Derek Shaw, and J. Bruce Kneeland, Eds. VCH, New York, 1988. xviii, 601 pp., illus. \$95.
- Biosensors and Environmental Biotechnology.** C. P. Hollenberg and H. Sahm, Eds. Fischer, Stuttgart, 1988 (U.S. distributor, VCH, New York). viii, 149 pp., illus. Paper, \$42. BIOTEC, vol. 2.
- Body and Brain.** A Trophic Theory of Neural Connections. Dale Purves. Harvard University Press, Cambridge, MA, 1988. viii, 231 pp., illus. \$35.
- Cancer.** The Outlaw Cell. Richard E. LaFond, Ed. 2nd ed. American Chemical Society, Washington, DC, 1988. xxiv, 274 pp., illus. \$29.95; paper, \$19.95.
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- Marine Microbiology.** B. Austin. Cambridge University Press, New York, 1988. xii, 222 pp., illus. \$59.50; paper, \$19.95.
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- Ultrasound.** Its Chemical, Physical, and Biological Effects. Kenneth S. Suslick, Ed. VCH, New York, 1988. xiv, 336 pp., illus. \$65.
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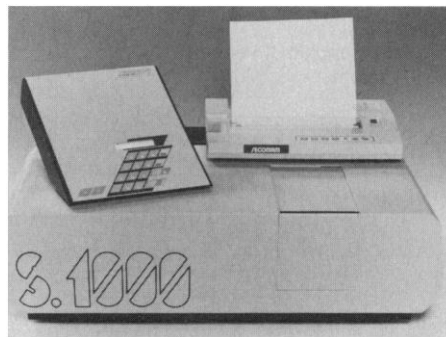
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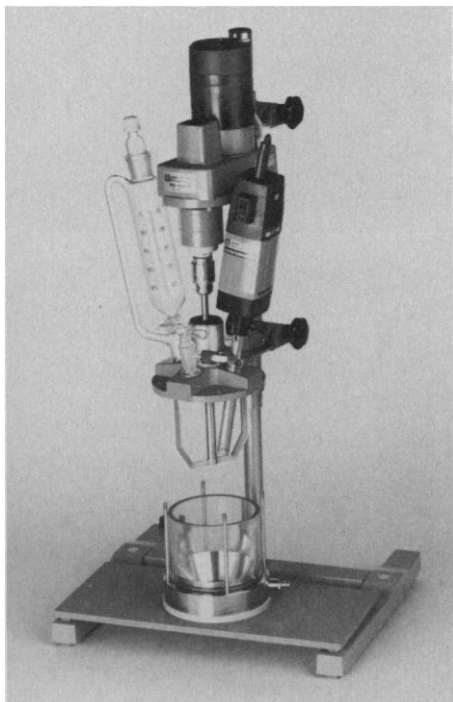


analysis, curve calculations, and multiwavelength measurements. A large cell compartment accommodates a cell with a light path as large as 100 mm. Each time the instrument is turned on, it automatically checks the light source, the commutation of the second-order filters, the operation of the printer and display, and the calibration of the wavelength based on the specific ray of a deuterium lamp. Secomam. Circle 530.

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Booths 2518-2521

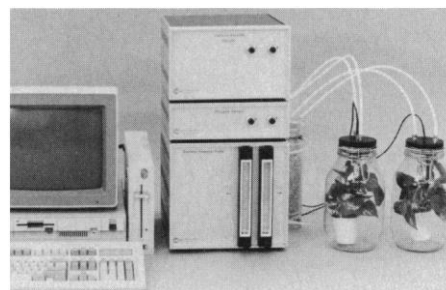
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Booths 2240-2244, 2341-2345

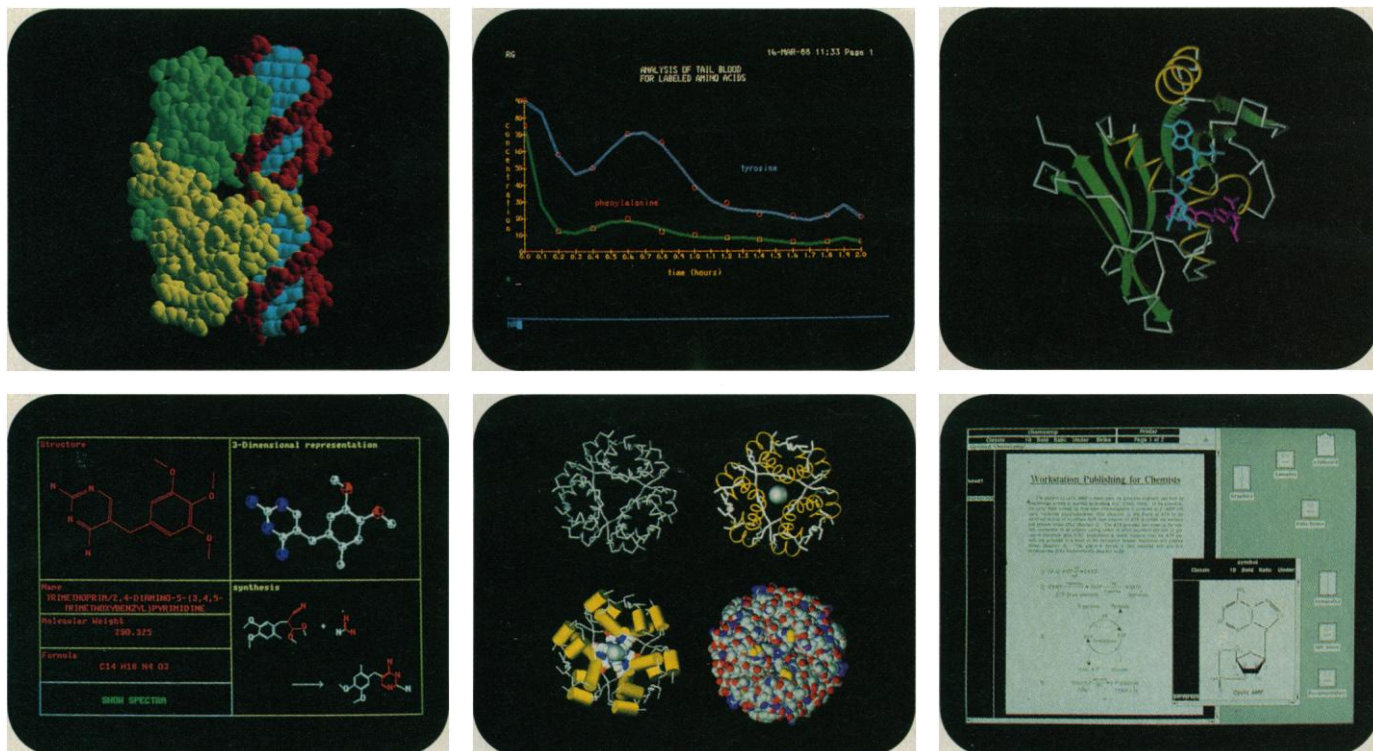
Computerized Respirometer

The Micro-Oxymax measures small amounts of gaseous oxygen and carbon dioxide production or consumption simultaneously in ten chambers. It is appropriate, for example, for measuring gas exchanges of bacterial and tissue culture, plants, and insects and the oxidation of chemicals. Com-



pared to the Warburg apparatus, the accuracy of the Micro-Oxymax is less disturbed by temperature fluctuations, and it provides more frequent results. This automatic respirometer has a sensitivity of 0.2 μ l over a measuring interval of an hour. The user can select measuring intervals between 5 min and 24 hours. Measurements can be made at room temperature or at a user-chosen temperature maintained by a waterbath. The Micro-Oxymax requires a computer with a DOS operating system. Columbus Instruments International. Circle 542.

Booth 4147

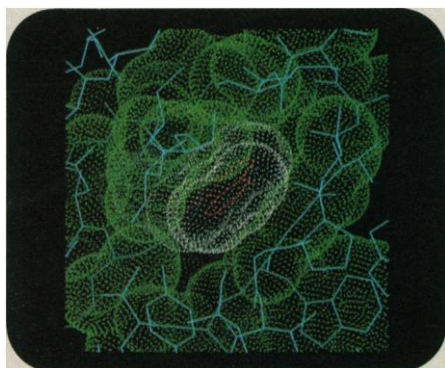
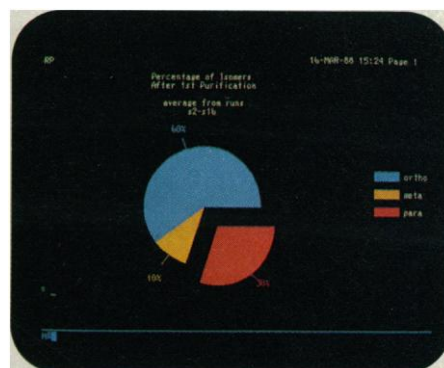
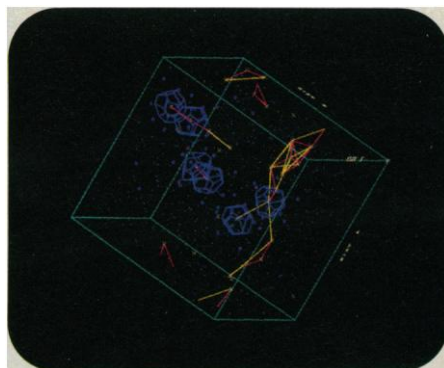
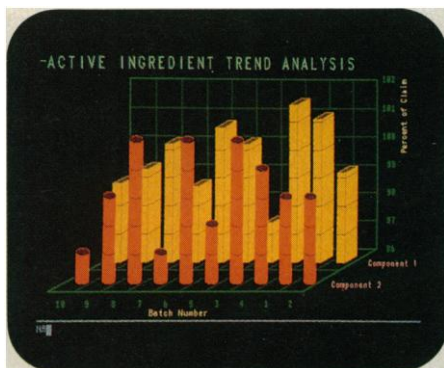


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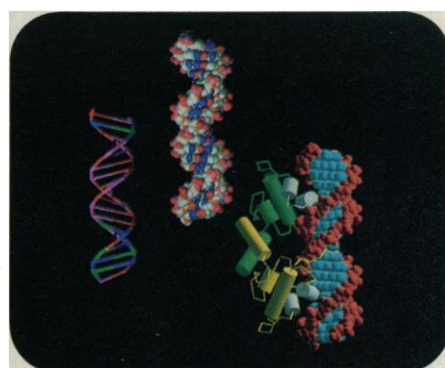
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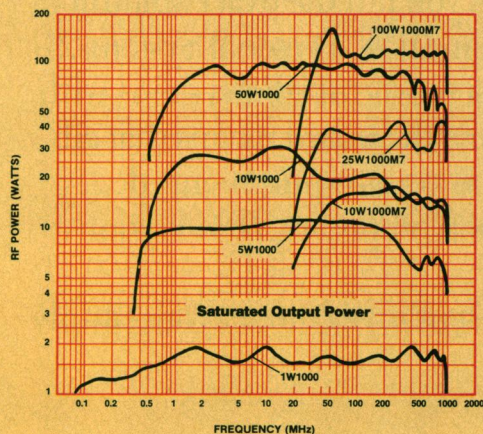
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Personnel Placement

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): \$40.00 per line; \$400 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 \$40.00 = 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
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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:

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SCIENCE
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Washington, DC 20005

POSITIONS WANTED

Biochemist/Analytical Chemist, Ph.D. seeks industrial position in Los Angeles area. Excellent publications and references. Discoverer of a patentable clinically safe atypical antipsychotic. Box 20, **SCIENCE**.

Medical Computer Specialist, M.D. Board-certified with 15 years of primary care clinical experience in hospital and ambulatory settings. Areas of interest include enhancement of health care productivity, quality assessment, database utilization and application. Seeks industry, government, or academic position in research, management consulting, or teaching. Prefer Arizona, Southwest. Box 187, **SCIENCE**.

Plant Physiologist, Ph.D. Biochemist—published work on the isolation and action of plant hormones and plant lectins. Some experience in molecular biology, gene cloning, immunoassay—seeks research fellowship. Box 21, **SCIENCE**.

POSITIONS OPEN

ALGAL BIOLOGIST

Microbio Resources, Inc., a company dedicated to the development of chemical products from algae, is in need of an algal biologist to manage the production algal cultures at its facility in the Imperial Valley of southern California. Responsibilities include day-to-day maintenance of cultures, interaction with production personnel, experimentation to optimize production, and coordination of outdoor experimentation with new species and products in the development phase. Background requirements are a Ph.D. or M.S. in algal biology (physiology, ecology, etc.) or a related area such as microbiology, mycology, or limnology with experience in algal growth. Salary will be commensurate with background and experience starting at \$35,000 per annum. If you are interested in becoming part of this promising area of biotechnology, send a résumé in confidence to:

Thomas Naylor, Director of Operations
Microbio Resources, Inc.
250 West Schriempf Road
Calipatria, CA 92233
Telephone: 619-348-5244
An Equal Opportunity Employer.

ANATOMIST

Anatomy department is seeking an anatomist whose primary responsibility will be to teach gross anatomy. Additional responsibilities will include teaching courses in histology and/or embryology. A Ph.D. or equivalent background is preferred. Qualified applicants should submit a résumé to: **Director of Basic Sciences, Cleveland Chiropractic College, 6401 Rockhill Road, Kansas City, MO 64131.**

Immediate opening for broad-based **AQUATIC ECOLOGIST** with a strong background in water quality assessment. The successful candidate will have excellent writing and oral communications skills, a strong background in statistical analysis, and microcomputer experience. A knowledge of fisheries and aquatic invertebrate taxonomy and field techniques is required. Experience with NEPA studies and project management is desirable. M.S. and 5 years of Ph.D. and 2 years of experience required. Send letter, résumé, and supporting materials to: **Dr. Virgil Brack, Jr., WAPORA, Inc., 5700 Hillside Avenue, Cincinnati, OH 45233.**

AQUATIC ECOLOGIST/FISHERIES BIOLOGIST

Envirosphere Company, the environmental consulting division of EBASCO Services Inc., located in Lyndhurst, New Jersey, is seeking a senior level **AQUATIC ECOLOGIST/FISHERIES BIOLOGIST** with a minimum of 5 years of experience in marine and/or freshwater systems, population and ecological assessments and impact report (EIS) preparation. IFIM/HEP training and supervisory experience desirable. Advanced degree preferred. EBASCO offers excellent growth opportunities as well as competitive salaries and a comprehensive benefits package. Please send résumé, and salary history/requirements to: **T. A. Caparo, EBASCO Services Inc., 160 Chubb Avenue, Lyndhurst, NJ 07071. Equal Opportunity Employer M/F/H/V.**

ASSISTANT PROFESSOR. We seek a molecular biologist for a non-tenure-track position in the Department of Physiology. Although we prefer a molecular biologist with experience in gene regulation, consideration will also be given to a cell biologist wishing to work with recombinant technology. The individual would collaborate with other researchers on the cell biology, molecular biology, physiology and morphometric assessment of lung injury in the adult and neonatal infant, and would be strongly encouraged to develop an independent program in the cell/molecular biology of lung cells. Excellent facilities are available, with the possibility of part-time technical assistance. Some postdoctoral training would be desirable, but recent Ph.D.'s with good training in gene regulation are strongly encouraged to apply. Please send curriculum vitae and list of references to: **Richard J. King, Ph.D., Professor, Department of Physiology, University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284-7756; Telephone: 512-567-4342. The University of Texas Health Science Center is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

Haverford College, 2-year position as **ASSISTANT PROFESSOR** to teach molecular and biochemical biology, immunofluorescence or electron microscopy, and direct student research. Contact: **A. G. Loewy, Haverford College, Haverford, PA 19041. Equal Opportunity Employer/Affirmative Action.**

ASSISTANT PROFESSOR THE UNIVERSITY OF WISCONSIN-MADISON

The School of Pharmacy at the University of Wisconsin-Madison invites applications for a full-time tenure-track position at the assistant professor level in the area of pharmaceuticals. Candidates should be capable of developing an independent, aggressive, and fundamental program of research on some aspect of the physical chemistry of biomolecules (preferably macromolecules). The primary interest should be in generating new knowledge at the molecular level, though the research should have potential application to drugs. Candidates should hold the Ph.D. in physical, analytical, or biophysical chemistry or in pharmaceuticals, and have relevant postdoctoral research experience. Teaching responsibilities will include undergraduate and graduate courses. Please send curriculum vitae with a description of research interests and names of three references by 1 April 1989 to: **Dr. Kenneth A. Connors, School of Pharmacy, University of Wisconsin, Madison, WI 53706; telephone: 608-262-2990.**

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

ASSISTANT PROFESSOR. Applications are invited for a tenure-track position beginning September 1989. Duties include teaching medical and graduate students and conducting an independent research program. All areas of mammalian physiology will be considered, but preference will be given to individuals with research interests in neuro or cardiovascular physiology. Qualifications include postdoctoral experience and a record of excellence and productivity in scholarly work. Send résumé and three references to:

Dr. James J. McGrath
Professor
Department of Physiology
Texas Tech University Health Sciences Center
Lubbock, TX 79430

Deadline for application: 1 April 1989. *TTUHSC is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR, Environmental scientist/landscape ecologist, 12-month, assistant professor, tenure-track position at the University of Kansas to teach two courses in Environmental Studies Program and build research program in Kansas Biological Survey. Suitable research specialties include: land/water interface; remote sensing/geographic information systems; wetland ecosystem analysis; water pollution assessment; or related area. Salary: \$38,000 to \$40,000. Ph.D. required. Postdoctoral research and teaching experience preferred. Start 1 July 1989. Send application letter, curriculum vitae, copies of publications, statement of research goals and three letters of recommendation to: **Dr. Leonard C. Ferrington, Jr., Kansas Biological Survey, 2291 Irving Hill Drive, Lawrence, KS 66045. Application must be postmarked by 1 March 1989. Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR—CELL BIOLOGIST. Research interests in cell and molecular structure and function; areas include, but are not limited to, motility, cell-cell interactions, receptors, intracellular signaling. Tenure-track, to begin, August 1989. Candidates must have a Ph.D., 2 years of postdoctoral training, teaching experience desirable, and proven ability as an independent researcher. Teaching cell biology to undergraduates, participation in allied staff courses, and graduate program is expected. Start-up funds available. Campus facilities include hybridoma laboratory, and EM center. Curriculum vitae and names of three references are to accompany application. Position remains open until filled. Screening begins 1 March 1989. **Dr. Charles J. Amlaner, Jr., Chair, Department of Zoology, SCEN 632, University of Arkansas, Fayetteville, AR 72701.**

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN



THE UNIVERSITY OF MANITOBA DEPARTMENT OF MICROBIOLOGY ASSISTANT PROFESSOR

The University of Manitoba, Department of Microbiology, invites applications for a tenure-track position at the assistant professor level.

The successful candidate will have a Ph.D. degree with 2 or 3 years of postdoctoral training in some area of microbiology. Preference will be given to applicants with expertise in microbial physiology, virology, ecological microbiology or microbial biotechnology. Evidence of successful participation in a research program is expected.

The appointment will be effective 1 July 1990 and salary will be based on qualifications and experience.

The individual will be expected to develop a strong funded research program in his/her specialty including the direction of graduate students. Participation in the teaching of undergraduate and graduate courses in basic microbiology and microbial physiology will be expected.

The University encourages both women and men to apply. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents.

Applicants are requested to arrange to have curriculum vitae, three letters of reference, recent reprints, and a brief description of present and prospective research forwarded by 1 May 1989 to: **Dr. P. Loewen, Chairman, Search Committee, Department of Microbiology, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.**

ASSISTANT PROFESSOR IN FOODS

The Foods and Nutrition Division seeks applicants for a 9-month tenure-track position starting 21 August 1989. Responsibilities include developing independent research program in an area of foods research, teaching and advising undergraduate and graduate students; some responsibilities for extension education. Ph.D. in foods, food science, or closely related field required; teaching experience preferred; demonstrated research ability. Send letter of application, curriculum vitae, research interest statement, transcripts, and three letters of reference by 31 March 1989 to: **Dr. Sharon Nickols, Director, School of Human Resources and Family Studies, University of Illinois, 905 South Goodwin Avenue, Urbana, IL 61801.** *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR—NON-TENURED

A non-tenured faculty position is available 1 July 1989, in the research laboratory of **Dr. James M. Krueger**, Professor in the Department of Physiology and Biophysics at the University of Tennessee. Requirements are good background in biochemistry and experience in microbiology and sleep physiology technique. The annual salary will be \$36,000. Applicants send curriculum vitae, copies of three representative publications and the names of three references to: **Dr. Edward G. Schneider, Professor and Acting Chairman, Department of Physiology and Biophysics, University of Tennessee, 894 Union Avenue, Memphis, TN 38163.** *An Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.*

ASSISTANT PROFESSOR OF PLANT PATHOLOGY SEED POTATO PATHOLOGIST

Tenure-track position, full-time (12-month appointment), 15% teaching, 85% research. Develop research program appropriate to production of pathogen-free potatoes. Position involves responsibility as Director of the Wisconsin Seed Potato Certification Program. Seed program has six full-time employees, including an Assistant Director and a Foundation Seed Farm. Applicants should have a Ph.D. in plant pathology or related science; postdoctoral experience is desirable. Salary commensurate with experience. Position available 1 July 1989.

Send résumé, transcripts, a statement of research interests, and three letters of recommendation on or before 30 April 1989 to: **Dr. Eugene B. Smalley, Professor and Acting Chair, Department of Plant Pathology, University of Wisconsin-Madison, 1630 Linden Drive, Madison, WI 53706.** *The UW-Madison is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR. We announce the availability of a nontenure-tracking, 12-month, faculty position to be filled after 1 August 1989. The position will include a cross-appointment in the Department of Medical Biochemistry and the Department of Chemistry and Biochemistry. Responsibilities include development of an active research program, complementary with existing programs in biophysics and/or molecular biology, with an emphasis on either (i) the mechanism of muscle contraction, or (ii) protein and DNA structure and interactions. Facilities include both wide-bore 300-MHz and narrow-bore 500-MHz NMR instruments. Teaching responsibilities will be one course in the fall and spring semesters at the undergraduate and/or graduate level. Minimum qualifications are a Ph.D. degree and postdoctoral training. The 12-month salary is competitive, and will be set up with a 75% fiscal-year assignment allowing further increases with external funding. The official title for this position is visiting assistant professor. It is renewable up to 4 years. Interested candidates should send curriculum vitae, an outline of interests, and three letters of reference, preferably before 1 May 1989, to: **Dr. John Shriver, Department of Medical Biochemistry, School of Medicine, Southern Illinois University, Carbondale, IL 62901. Telephone: 618-453-5721.** *Southern Illinois University at Carbondale is an Equal Opportunity/Affirmative Action Employer.*

The University of California San Francisco is seeking a faculty member at the **ASSISTANT PROFESSOR IN RESIDENCE** level to participate in the activities of the Medical Genetics Division of the Department of Pediatrics. Candidates should be Board-eligible or -certified in clinical genetics, have experience in medical genetics and in molecular genetic research, and have potential to establish and maintain an active research program. Demonstrated teaching skills essential. For additional information, please contact: **Dr. Charles J. Epstein, Professor of Pediatrics, University of California San Francisco, San Francisco, CA 94143-0106.** *The University of California is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

ASSISTANT PROFESSOR OF BIOLOGY—The Department of Biology, Hofstra University, is seeking a comparative physiologist for a tenure-track assistant professorship. The appointee will teach undergraduate animal physiology and, possibly, cell biology and will be expected to develop an active research program. The exact area of research is open but the Department is particularly interested in comparative physiology and neurophysiology. Teaching and postdoctoral research experience are desirable. Curriculum vitae, selected reprints, and at least three letters of reference should be submitted to: **Dr. Carleton J. Phillips, Chairman, Department of Biology, Hofstra University, Hempstead, NY 11550.** *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF BOTANY/BIOLOGY. Ph.D. required—teaching experience preferred. The position, tenure-track, includes teaching courses in the areas of plant biology (botany, plant anatomy, ecophysiology), biometry, as well as involvement in the introductory biology courses.

Please send curriculum vitae and three letters of recommendation before 3 March 1989 to:

**Dr. Edmund Y. Tong, Chair
Department of Biology
Wheaton College
Norton, MA 02766**

*Wheaton College is an Affirmative Action/
Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR— MICROBIOLOGY

The St. Louis College of Pharmacy invites applications for a full-time (9-month) tenure-track position in microbiology starting fall 1989. Applicants should possess a Ph.D. in microbiology with special interest in medical microbiology. Responsibilities include teaching a survey course for nursing students and a two-semester sequence for pharmacy students. Send curriculum vitae, graduate transcripts, and names, addresses, and telephone numbers of three references by 1 March 1989 to: **Dr. R. J. Cooper, Director, Division of Biological Sciences, St. Louis College of Pharmacy, 4588 Parkview Place, St. Louis, MO 63110.** *An Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR OF NUTRITION. Applications are invited for a 12-month tenure-track position in the Food Science and Human Nutrition Department and the Center for Nutritional Sciences. The successful applicant will have an earned doctorate in nutrition, molecular biology, biochemistry, or other appropriate field, and have the potential to develop an independent research program with extramural grant funding. The position will involve teaching and directing graduate research programs. Applications, including curriculum vitae and a brief statement of research interests, official transcripts, and the names of at least three references should be sent to: **Dr. L. B. Bailey, Chairperson, Search and Screen Committee, University of Florida, Food Science and Human Nutrition Department, Gainesville, FL 32611. Telephone: 904-392-1991.** *The University of Florida is an Equal Opportunity/Affirmative Action Employer. Deadline date: 1 March 1989.*

ASSISTANT PROFESSORS CELL PHYSIOLOGY AND EVOLUTIONARY BIOLOGY

The Department of Zoology, University of Tennessee, Knoxville, invites applications for tenure-track positions at the assistant professor level. We are seeking a cell physiologist with preference given to candidates with expertise in membrane or sensory physiology, or signal transduction, and a vertebrate evolutionary biologist demonstrating a strong research emphasis on morphology, ecology, or ethology. Ph.D. or equivalent and postdoctoral experience required. The successful applicants will be expected to maintain active and funded research programs, teach at undergraduate and graduate levels, and direct undergraduate and graduate research. A course in comparative vertebrate biology will be taught by the vertebrate evolutionary biologist. Send curriculum vitae, brief statements of research interests and teaching experience, reprints of recent publications, and three letters of recommendation to: **Physiology or Evolution Search Committee, Department of Zoology, University of Tennessee, Knoxville, TN 39776-0810.** Review of applications will begin 20 February 1989. *UTK is an Equal Employment Opportunity/Affirmative Action/Title IX, Section 504 Employer.*

ASSISTANT/ASSOCIATE PROFESSOR MEDICAL COLLEGE OF OHIO

The Department of Surgery, Medical College of Ohio is searching for a G.I. (preferably hepatic) physiologist. Tenure-track position with opportunity for independent research program. Address inquiries (please include curriculum vitae) to: **Neil R. Thomford, M.D., Chairman, Department of Surgery, Medical College of Ohio, P.O. Box 10008, Toledo, OH 43699-0008.** *The Medical College of Ohio is an Equal Opportunity Employer.*

BIOLOGIST. Tenure-track position, August 1989. Ph.D. required, emphasis in structural and functional aspects of animals (including human). Teaching duties include animal diversity, ecology, human anatomy/physiology and elective in specialty. Independent research expected. Ability to teach a computer literacy or introductory statistics course desirable. Send curriculum vitae, transcripts, and three letters of reference by 1 March 1989 to: **Dr. Thomas E. Bennett, Chairman, Biology Department, Bellarmine College, Newburg Road, Louisville, KY 40205.** *Affirmative Action/Equal Opportunity Employer.*

BIOLOGIST. One-year sabbatical replacement beginning fall 1989 to teach courses for nonmajors and second-level courses in a liberal arts college dedicated to quality teaching. We seek a broadly-trained person interested in working closely with students and capable of teaching in two of the following areas: botany, developmental biology, cell and molecular biology, immunology. It is possible that the position will be filled with two half-time appointments. *Equal Opportunity Employer. Applications from women and minorities are encouraged.* Send résumé and three letters of recommendation by 10 March 1989 to: **Carolyn Alia, Biology Department, Sarah Lawrence College, Bronxville, NY 10708.**

POSITIONS OPEN

BIOLOGY—ASSISTANT PROFESSOR molecular biologist, Ph.D., beginning September 1989. Primary teaching responsibility in undergraduate microbiology, molecular genetics, and biochemistry/microbiology laboratories; also to share teaching of general education introductory biology and biochemistry/molecular biology courses. Appointment renewable annually for maximum of 7 years. Generous fringe benefits. Strong commitment to liberal arts and undergraduate teaching required. *Women and minorities are encouraged to apply.* Applications, résumés, transcripts, and three reference letters to: **Leonard DiLillo, Dean, Centre College, Danville, KY 40422.** An Equal Opportunity Employer.

Washington State University invites applications and nominations for the position of **CAMPUS DEAN**, Washington State University at Tri-Cities. The institution, currently Tri-Cities University Center, will become a campus of WSU on 1 July 1989. The Campus Dean is the senior administrative officer for the campus and reports directly to the Provost of Washington State University, Pullman. Duties include personnel management, budget, program planning and evaluation; creating and maintaining effective relationships with civic, legislative and industry audiences including an advisory committee; providing general leadership to the campus and managerial skill in administering the work of WSU Tri-Cities academic and administrative staff. Applicants must have an earned doctorate, a documented record of scholarship and research accomplishments consistent with an appointment at the senior level; successful administrative experience in higher education at the level of dean, department chair or program director; commitment to high academic quality; and a belief in shared governance. Salary and rank will be commensurate with experience and qualifications.

For more information, to nominate others, or to make application, call or send letter of application, curriculum vitae, and a list of five references to:

Dr. Rom J. Markin, Dean
College of Business and Economics
Washington State University
Pullman, WA 99164-4720
Telephone: 509-335-3596

Applications and nominations will be received until 1 March 1989 or until the position is filled. *WSU is an Equal Opportunity/Affirmative Action Educator and Employer. Protected group members are encouraged to apply.*

CANCER RESEARCH SCIENTIST—Ph.D. plus 8 to 10 years of experience in the area of immunology research. Candidate must possess experience in the development of anti-idiotype vaccines with potential applications for cancer and other areas of human health. Background and experience shown must be evidenced by publications and record of independent funding. Salary: \$40,000. Reply to: **Box 19, SCIENCE.** *Equal Opportunity Employer/Affirmative Action.*

UNIVERSITY OF CALIFORNIA LOS ANGELES (UCLA) CELL AND MOLECULAR PHYSIOLOGY

The Department of Physiology invites applications for tenure-track faculty positions at the level of

ASSISTANT PROFESSOR

Outstanding candidates working in any area of contemporary physiology will be considered, but those in smooth muscle, reproduction and development, endocrinology, sensory transduction, and the cardiovascular system are encouraged to apply. Successful candidates are expected to have a Ph.D. or M.D. with postdoctoral experience, to provide evidence that they can pursue a vigorous, independent research program and to participate in our teaching program.

Resources and an excellent environment exist for developing an academic career within an interactive community. Interested scientists should send their curriculum vitae, a statement of present and future research interest, and names of three references to: **Ernest M. Wright, D.Sc., Professor and Chairman, Department of Physiology, UCLA School of Medicine, Los Angeles, CA 90024-1751.**

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

RESEARCH *and* DEVELOPMENT.

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Structural Protein Chemistry

We are seeking a scientist with expertise in structural protein chemistry to undertake projects involving the characterizations of mammalian and bacterially expressed proteins. Candidates must possess a Ph.D. in a chemical or biochemical discipline and appropriate training and experience in structural protein chemistry (e.g., protein sequencing, amino acid composition analysis, peptide mapping, protein modification, etc.). Candidates with additional experience in protein structure-function relationships, structural biology, physical biochemistry, biomolecular mass spectrometry or computer analysis of protein structures are especially encouraged to apply. The successful candidate will be expected to assume responsibility for the planning and execution of scientific projects involving blood cell differentiation factors and thrombolytic agents. Since this position involves substantial interaction with scientists from other disciplines (e.g. carbohydrate chemistry, biomolecular mass spectrometry, protein purification), applicants must have excellent interpersonal skills as well as excellent oral and written communication skills.

Located in Andover, Massachusetts, the Structural Protein Chemistry laboratory is fully equipped for the structural characterization of proteins and includes a state-of-the-art high mass, four-sector mass spectrometer.

Biochemistry

An opportunity exists for a motivated individual to join our Hematopoiesis laboratory. The ideal candidate will be responsible for several research projects including screening cell lines for growth factors. Candidates should possess a Bachelor's or Master's degree in Biology or Biochemistry and several years' experience in Biochemistry. Tissue culture experience will be considered a plus.

Technical Services Manager

This position is responsible for managing the centralized technical services which provide technical support to our research and development laboratories in our two locations, Cambridge and Andover, Massachusetts. Areas of responsibility include managing the operation of glassware washing, media preparation and the animal facility, monitoring all equipment and building alarm systems, directing the use of the pure water systems, overseeing the administration of biological sample requests, supervising contract services related to laboratory support functions, and implementing new support services to meet the changing needs of the Company. This position will have budgetary responsibility and should be familiar with GLP's and cGMP's, and OPRP, USDA, and IACUC policies, practices and regulations. Strong computer skills a plus. This position reports to the Director of Facilities and Technical Services.

Qualifications include a Bachelor's in a science related field, a minimum of 5 years' laboratory and technical services experience, and demonstrated management skills working in a fast-paced, changing environment.

We offer a stimulating and dynamic environment, in addition to an excellent salary and complete benefits package. Interested candidates should forward their resume, in confidence, to the Human Resources Dept., 87 Cambridge Park Drive, Cambridge, MA 02140.

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Genetics Institute

Senior Research Virologist

Connaught Laboratories, Inc., is an internationally recognized leader in the research, development, manufacture and distribution of vaccines and biologicals for vital medical applications. A challenging opportunity is currently available in our growing R & D department for a virologist capable of effectively directing critical projects which focus on the development of human virus vaccines.

The successful candidate will assume responsibility for 3 new, and fully equipped laboratories designed to GMP specifications. Additional responsibilities may involve acting as liaison with other areas such as bacteriology, immunology, biochemistry, protein chemistry, fermentation science and process engineering, etc.

Applicants must possess a Ph.D., at least 1 year of post-doctoral experience and the ability to apply state-of-the-art molecular virology methods to human vaccine design. An interest in viral pathogenesis and human viral pathogens is also required.

Join the CLI team and you'll be working with a distinguished group of professionals in a dynamic, success oriented environment. In addition we offer an excellent salary and benefits package as well as the potential for professional development.

If qualified please forward your resume with salary history in complete confidence to:

J.M. OCCHIPINTI, DEPT. R.V.

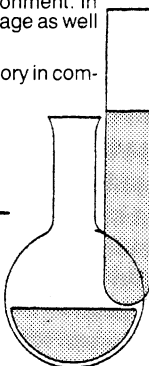


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JUNIOR STAFF PHYSICIAN NIAID/NIH CLINICAL AIDS STUDIES JUNIOR MEDICAL STAFF

The Laboratory of Immunoregulation of the National Institute of Allergy and Infectious Diseases is seeking applicants for one position in the outpatient AIDS Research Clinic. To be eligible, a physician must be a United States Citizen and have completed three years of residency in internal medicine. Subspecialty training in infectious diseases, immunology or hematology/oncology is also desirable.

The AIDS Research Clinic is organized to design and implement studies on all aspects of AIDS with emphasis on protocols exploring novel antiretroviral, immunomodulatory and anti-infective therapies. The clinic is staffed by 7 clinical nurses and supported by full-time social work, mental health, clinical pharmacology, and research study nurse personnel. Extensive laboratory services in retroviral and immunology and computerized data entry and retrieval systems are integral parts of this state-of-the-art-clinic facility.

The Laboratory of Immunoregulation is seeking a junior staff physician to participate in protocol design, daily clinical care, and data analysis. Excellent opportunities are available to learn clinical investigations, to perform clinical trials, and to contribute to progress in the therapy of AIDS. The successful applicant will hold a civil service position with an annual salary that will be determined by credentials (\$32,000/\$50,000 + Physicians Comparability Allowance if applicable). The position is available July 1989.

For further information please contact (301-496-7196) or send Curriculum Vitae to:

H. Clifford Lane, M.D.
Deputy Clinical Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Bldg. 10, Rm. 11B-09
Bethesda, Maryland 20892
Phone: 301-496-7196

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American Cyanamid Company's Agricultural Research Division has a long-standing and highly successful commitment to the discovery and development of products to improve worldwide crop and livestock production. We are growing rapidly and currently have the following opportunities in the Animal Industry Discovery Department at our laboratory and experimental farm complex ideally located near Princeton, New Jersey.

Molecular Biologists (PhD/MS/BS)

The Molecular and Cellular Biology Group has positions available for Molecular Biologist/Biochemists at both the PhD and MS/BS levels.

PhD candidates should have completed two or more years of postdoctoral 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*. In addition, a close collaborative arrangement exists with the Molecular Biology Department at Princeton University and it is expected that individuals in these positions would pursue this relationship and establish joint research projects with relevant Princeton University faculty members. Refer to position ADI #1.

BS/MS candidates should have extensive laboratory experience and a working knowledge of molecular biology techniques. Experience with expression systems, protein purification techniques, cDNA cloning is desirable. These positions would also include work with transgenic animals. This is an excellent opportunity for scientific growth and development with the opportunity for considerable independence. Refer to position ADI #2.

Postdoctoral Biochemist

The Biochemistry & Physiology Group, Animal Industry Discovery and Biotechnology Department has a postdoctoral position for a Biochemist. This individual will join a newly formed Immunology Team concerned with identifying and establishing immunological approaches to modulating growth and body composition. The applicant should have a strong background in protein chemistry, immunochemistry and cell biology. He or she will employ monoclonal antibodies and other immunological techniques to investigate the interactions and regulation of hormones and their receptors. Collaboration with other molecular and cellular biologists, both in-house and outside the company, will be encouraged. We provide an opportunity to explore basic research problems in an exciting, goal-oriented and academic-like environment. Appointment is initially for one year and renewable thereafter. Refer to position ADI #3.

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CELL BIOLOGIST

A dynamic bioengineering R&D enterprise seeks highly motivated cell biologist to manage human tissue culture facility. Animal and human tissue fibroblast background desirable. Doctorate in a biological science + 2 years of experience. Excellent salary package, opportunity to excel with rapidly growing, leading edge company. Résumé to: **Room 304 Research Building, 6767 West Outer Drive, Detroit, MI 48235.**

CELL BIOLOGIST/BIOCHEMIST with a strong interest in breast cancer, to establish a program in growth factor/oncogene research. Selection will be based upon experience, proven ability to develop an independent program as evidenced by current grant support and willingness to interact with established programs in a multidisciplinary approach. Expertise in primary culture of human and rodent cells desirable. Core support for the program will be provided by the Michigan Cancer Foundation (rank commensurate with experience). Submit curriculum vitae, three references, and summaries of current and future research plans by 1 June 1989 to: **Dr. Gloria Heppner, Michigan Cancer Foundation, 110 East Warren, Detroit, MI 48201.** *Affirmative Action/Equal Opportunity Employer.*

RESEARCH INSTITUTE OF THE CLEVELAND CLINIC FOUNDATION CHAIRMAN DEPARTMENT OF ATHEROSCLEROSIS

A national search is being conducted to identify a suitable candidate to chair the newly created Department of Atherosclerosis. This position represents an opportunity to develop a research program and lead a group of established investigators in the broad field of atherosclerosis research including vascular cell biology, lipoprotein biochemistry and thrombosis. The department is part of the Research Institute of The Cleveland Clinic Foundation which consists of nine departments comprising over 150 scientists and pre- and postdoctoral trainees. The Cleveland Clinic Foundation is a national medical referral center. Applicants should send their curriculum vitae to: **Dr. Mehdi Razavi, Chairman, Search Committee, The Cleveland Clinic Foundation, One Clinic Center, 9500 Euclid Avenue, Cleveland, OH 44195-5066.**

CHAIRPERSON, DEPARTMENT OF PATHOLOGY

The University of Louisville is seeking an individual to serve as Chairperson and oversee the revitalization of the Department of Pathology. Candidates should have demonstrated abilities in research and teaching, as well as the capability to administer the academic and service missions of the Department. Candidates should be Board-certified in pathology and eligible for medical licensure in the state of Kentucky.

Interested individuals should send a letter of application and curriculum vitae by 1 April 1989 to: **Fred J. Roisen, Ph.D., Chairman, Pathology Search Committee, Department of Anatomical Sciences and Neurobiology, University of Louisville, Louisville, KY 40292.** *Affirmative Action/Equal Opportunity Employer.*

COMPUTER SYSTEMS ADMINISTRATOR FOR BIOLOGICAL SEQUENCE/STRUCTURE COMPUTATIONAL FACILITY

Applications are invited at the level of systems administrator in the Department of Genetics/Advanced Computational Methods Center, The University of Georgia. The successful candidate will be expected to establish and maintain a molecular biology network comprising 48 laboratories, to assist in the development and maintenance of software for DNA sequence analysis and molecular graphics, and to develop a user support program for laboratory personnel. Salary will depend on experience. Applicants should supply a résumé, any reprints, three letters of reference, and salary requirements. Send materials by 15 March 1989 to: **Personnel Services Division, The University of Georgia, Jackson Street, Athens, GA 30602.** *The University of Georgia is an Equal Opportunity/Affirmative Action Institution.*

POSITIONS OPEN

CHAIR BIOLOGICAL SCIENCES

The Wichita State University is seeking a chairperson for the Department of Biological Sciences. In addition to academic credentials warranting appointment at the full professor level, successful administrative experience or documented potential is required. The ideal candidate will have research and teaching interests in some aspect of cellular/molecular biology, while maintaining an understanding and appreciation of the breadth of biology. The department presently consists of 11 faculty and 5 staff, and offers B.A., B.S., and M.S. degrees. The University is situated in the largest city in the state, and enrolls more than 17,000 students. The department is entering a growth phase coupled with expanding community involvement and support in biomedical research. The new chair will have a strong influence on the magnitude and direction of departmental growth, including the immediate filling of three faculty vacancies and possibility of additional positions. Address inquiries, nominations, and applications (letter of interest, curriculum vitae, names, and telephone numbers of at least three references) to:

**Dr. R. I. Peters
Department of Biological Sciences
The Wichita State University
Wichita, KS 67208**

Deadline for receipt of application is 24 February 1989.

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CHIEF, DEVELOPMENTAL DISABILITIES BRANCH CENTERS FOR DISEASE CONTROL

The Center for Environmental Health and Injury Control, at the Centers for Disease Control in Atlanta, Georgia is seeking to fill the position of Chief, Developmental Disabilities Branch, Division of Birth Defects and Developmental Disabilities. The Branch is concerned with the epidemiology and prevention of childhood developmental disabilities such as cerebral palsy and mental retardation. Activities include technical assistance to state-based disability prevention programs, epidemiologic studies to assess the magnitude, causes and impact of developmental disabilities, quantitative reviews of intervention strategies and priorities, and development of surveillance methods for early identification of developmental disabilities. Applicants should have a doctoral degree in Medicine or Public Health, and at least 3 years of experience in epidemiologic or medical research. Preference will be given to individuals with training and/or experience in the epidemiology of developmental disabilities, supervisory experience, and scholarly achievement in the field of developmental disabilities. The person selected will provide scientific and managerial leadership to the Branch. This position is in the Career Civil Service or the Public Health Service Commissioned Corps with salary depending on the individual's qualifications, experience, and personnel system. For technical information regarding the position, contact: **Muin J. Khoury, M.D., Ph.D. at 404-488-4737.** Interested applicants should send their applications and curriculum vitae to: **Jenny Garner, Personnel Generalist, Centers for Disease Control, 1600 Clifton Road, Atlanta, GA 30333.** *CDC is an Equal Opportunity Employer and provides a smoke-free work environment.*

CONSULTING

Scientific consulting firm offering assistance in analysis of data and communication of findings in written reports and public presentations to a variety of forums seeks Ph.D.'s in biological and biochemical sciences and M.D.'s interested in consulting opportunities. Disciplines of interest include epidemiology, biostatistics, toxicology/pharmacology, cancer research, pathology, immunology, allergy, etc., and any of the medical specialties. Applicants will provide assistance on various projects. The position is intended for those people looking to supplement ongoing activities. Travel can be minimized. Retired individuals are welcome as are all academic professionals. Please reply with résumé and rate structure to: **Vice President, Suite 206, 3421 M Street, NW, Washington, DC 20007.**

POSITIONS OPEN

DEAN OF THE COLLEGE OF BIOLOGICAL SCIENCES THE OHIO STATE UNIVERSITY

Applications and nominations are invited for the position of Dean of Biological Sciences. As chief executive officer, the Dean is responsible for academic leadership, resources management, and productive synergistic relationships with other Colleges in the University including Agriculture, Mathematical and Physical Sciences, Medicine, Pharmacy and the Biotechnology Center. The Dean also plays a central role in a range of development and public relations activities. Candidates should have an earned Ph.D. degree and a record of research accomplishment that warrants a faculty appointment at the rank of full Professor in the College. The deanship is a 12-month appointment available 1 September 1989. Salary is negotiable and commensurate with background and experience. Nominations or letters of application, curriculum vitae, and names, addresses, and telephone numbers of four references should be addressed to:

**Dean C. William Kern
Chair, Biological Sciences Search Committee
Office of Academic Affairs
The Ohio State University
203 Bricker Hall/190 North Oval Mall
Columbus, OH 43210
Telephone: 614-292-2874**

The Search Committee will begin screening dossiers on 15 February 1989 and will continue to receive nominations and applications until the Dean is selected.

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

The David Mahoney Institute of Neurological Sciences (INS) of the University of Pennsylvania is recruiting a **DEVELOPMENTAL NEUROBIOLOGIST** at the rank of assistant or associate professor. We are particularly interested in people working at the molecular or cellular level, either in genetics or in other aspects of nervous system development. The INS has over 100 members and already has several excellent laboratories working on cellular, molecular and biochemical aspects of neural development and regeneration. Applicants should send their curriculum vitae and names and addresses of three references to:

**Michael E. Selzer, M.D./Ph.D.
Department of Neurology Hospital of
the University of Pennsylvania
3400 Spruce Street
Philadelphia, PA 19104-4283**

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DIRECTOR OF THE KELLOGG BIOLOGICAL STATION MICHIGAN STATE UNIVERSITY

Michigan State University seeks a resident director of its Kellogg Biological Station. The responsibility of the director is to provide creative leadership and to guide future development of KBS programs in ecology, natural resources, and agriculture. The University is committed to build at the Station a program of excellence in research, education and extension directed toward the comprehensive understanding of the interdependence of natural and managed terrestrial and aquatic systems and the conservation of natural resources.

The Station programs and operations are supported by a \$4-million annual budget. New research and teaching facilities and a 2300-acre landbase provide an excellent environment for resident and campus-based programs.

Candidates should have an established record of scholarly activity, including current research experience, demonstrated leadership ability and a strong interest in interdisciplinary research, teaching, and extension activities.

Send letter of application and curriculum vitae to:

**Dr. Michael J. Klug
Kellogg Biological Station
3700 East Gull Lake Drive
Hickory Corners, MI 49060
Telephone: 616-671-2341**

Closing date for applications is 1 March 1989, or until a suitable candidate is identified.

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U.S. PATENT AND TRADEMARK OFFICE

POSITION: Microbiologist/Patent Examiner Opportunity involves the scientific and legal evaluation of patent applications involving recombinant DNA, molecular and cellular immunology, molecular genetics, microorganisms, cell biology, cell culture, fermentation, enzymology or clinical chemistry.

QUALIFICATIONS: A full 4-year or longer professional curriculum in an accredited college or university leading to a Bachelor's Degree or higher with specific study in Molecular Biology, Biochemistry, Immunology, Enzymology, Embryology, Protein Chemistry, Microbiology or Cell Biology.

A Ph.D. or M.S. degree with relevant research experience is preferred. A B.S. degree with significant research experience will be considered.

Research Experience in any of the following areas would be beneficial: DNA cloning, protein chemistry, gene expression, sequencing techniques, muteins, hybridoma technologies, monoclonal antibody applications, mammalian or plant cell lines, cell culture, immunossays, hybridization techniques, fermentation, enzymatic reaction, diagnostics and automation of clinical analysis.

SALARY: Dependent upon experience and qualifications.

LOCATION OF POSITION: Arlington, VA

For further information contact:

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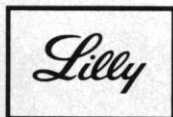
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BS/MS SCIENTISTS Virology Research



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Maria L. Poor
Science Recruitment (AV-1)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285

POSITIONS OPEN

DIRECTOR, undergraduate biology laboratories, for fall 1989. Lectureship, salary negotiable. Candidate should have a Ph.D. in life sciences with strong interest in undergraduate teaching. Includes working with faculty, coordinating and developing new laboratories, supervising teaching assistants. In addition, there is the option to develop and teach new lecture or laboratory courses. Applicants should submit curriculum vitae, teaching experience/interest, and addresses of three references to: **Cynthia Johnson, Undergraduate Program in Biological Sciences, Northwestern University, Hogan Hall, 2153 Sheridan Road, Evanston, IL 60208.**

The University of California, San Diego (UCSD), Department of Pediatrics is seeking a **DIRECTOR** for the Division of Immunology. Appointment will be at the associate to full professor (tenure-track). The applicant should be a pediatrician who has a strong research background in either basic immunology or a related field (i.e., allergy, rheumatology, etc.). The successful candidate will be responsible for all aspects of the division including research, clinical service and teaching. Rank and salary commensurate with the candidate's qualifications and University of California policy. Candidate should apply by 15 March 1989, with résumé and three references to: **Jerry A. Schneider, M.D., Professor of Pediatrics, UCSD, M-009-F, La Jolla, CA 92093.** Affirmative Action/Equal Opportunity Employer.

DIRECTOR DNA DIAGNOSTIC LABORATORIES

New position. Available immediately. Expanding program. Ph.D. with at least 4 years of experience. Diagnostic and research opportunity, including collaboration with a large group of molecular geneticists. Curriculum vitae to: **Aubrey Milunsky, M.D., D.Sc., Director, Center for Human Genetics, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118.**

DIRECTOR DIVISION OF IMMUNOLOGY IMMUNOLOGY PROGRAM

The University of Texas Medical Branch (UTMB) invites applications and nominations for the Director of the Immunology Division in the Department of Microbiology. The University is undergoing a phase of vigorous growth in immunology. This includes the establishment of a strong Immunology Division which will spearhead development of our campus-wide Program in Immunology. The Director will be responsible for establishing a research program, recruiting a number of new faculty, providing scientific leadership to the campus-wide Immunology Program; coordinating graduate and medical education, and establishing collaborative and interdepartmental research efforts. Applicants should have a Ph.D., D.Sc., and/or M.D., and a national/international reputation in research and academic leadership in any area of immunology. UTMB is a large state-supported medical center with an excellent basic science environment, start-up funds, competitive salaries, and modern facilities located in Galveston in close proximity to the Houston metropolis. Applicants should send curriculum vitae; reprints of recent publications; and, names, addresses, and telephone numbers of five references by 1 May 1989 to: **Immunology Search Committee, c/o Dr. Gary Klimpel, Department of Microbiology J-19, UTMB, Galveston, TX 77550.**

UTMB is an Equal Opportunity M/F/H/V Affirmative Action Employer. UTMB hires only individuals authorized to work in the United States.

DIRECTOR OF WEBB-WARING LUNG INSTITUTE

Applications are solicited for candidates with demonstrated capacity for leadership in scientific research and administration of Institute affairs. The Institute's mission is to study the lung and its diseases and to disseminate what is learned. It contains 30,000 square feet of space. All investigators are active members of the University of Colorado medical school faculty. The Institute is an Equal Opportunity/Affirmative Action Employer. Interested individuals write to: **Dr. Henry W. Toll, Jr., Chairman, Search Committee, Webb-Waring Lung Institute, Box C321, UCHSC, Denver, CO 80262** by 1 May 1989.

Director-Center for Great Lakes and Aquatic Sciences The University of Michigan, Ann Arbor

The University of Michigan is searching for a Director for the Center for Great Lakes and Aquatic Sciences (CGLAS). The Center is the locus of a broad variety of research efforts both on the Laurentian Great Lakes and on other aquatic systems worldwide. CGLAS is an independent research unit within the University's College of Literature, Science, and the Arts and has substantial facilities including laboratories, libraries, and an 80-foot UNOLS research vessel. Forty persons are affiliated with the Center, including 14 primary and associated researchers, and an administrative staff of 5. The Director will be responsible for the overall research directions and growth of the Center, and will represent CGLAS and the University at local, state, national, and international levels. Ann Arbor is the location of several state and federal research laboratories that focus on the Great Lakes in addition to the University programs. Appointment to the Directorship will be on a half-time basis and will be made in conjunction with an appointment as a tenured associate or full professor in the appropriate university department.

We are searching for an outstanding aquatic scientist who has a strong record of external funding and is familiar with the agencies that fund aquatic science, is capable of enhancing a program based on external funding, and, preferably, has some administrative experience. The successful candidate should hold a Ph.D. degree and must demonstrate a record of scholarship that will qualify for a tenured position in the University's College of Literature, Science, and the Arts.

Applications and nominations will be accepted until February 15, 1989, although the search will remain open if suitable candidates are not found by then. Interested persons should submit curriculum vitae and the names of five persons who can be contacted as references to: **Prof. David K. Rea, Chair, Director Search Committee, Center for Great Lakes and Aquatic Sciences, The University of Michigan, 2200 Bonisteel Boulevard, Ann Arbor, Michigan 48109-2099.**



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BONE GROWTH

— A senior staff member is sought to conduct histological analyses of bones and various cells that metabolize bone, and measurement of indices of bone growth and bone quality in conjunction with selected growth factors to evaluate their effect on bone growth. The successful candidate will possess a Ph.D. in Histology/Pathology or a related field, with demonstrated practical laboratory experience. Code 2094

— Support personnel are also needed to prepare specimens for histological evaluations, and to perform biochemical assays which may include the use of radioisotopes. Some computer analysis will be required. Successful candidates will possess a B.S./M.S. in Histology/Pathology or a related field with 1-3 years of practical experience in a laboratory environment. Code 2095

SEPTIC SHOCK

— A senior staff member is required to conduct research on the pathophysiology of septic shock, and to take a lead role in conducting clinical evaluations of potentially useful therapeutic drugs. The successful candidate will possess a Ph.D. in Pharmacology or Physiology, with demonstrated practical experience in drug evaluations, experimental design, and statistics. Code 2096

WOUND REPAIR

— Support personnel are required to assist in the evaluation of novel polypeptides, proteins, growth factors, and biopolymers for use in enhancing wound repair. This position involves the preparation of materials and models needed for the studies, and to assist in the evaluation of their effects on wound repair. Successful candidate will possess a B.S./M.S. in Biochemistry/Biology or a related field, with 1-3 years of practical experience, and a working knowledge of cellular mechanisms. Code 2097

CELL SORTING

— A senior staff member is required to assist in the development of fluorescence activated cell sorting. This position will involve the utilization of state-of-the-art instrumentation, and will focus on the development of novel methodologies related to this technique. The successful candidate will possess a Ph.D. in Molecular Biology or a related field, and a strong chemistry background. Code 2117

— A support staff member is also required to assist in the operation of various cell sorting instrumentation. The successful candidate will possess a B.S./M.S. in Molecular Biology or a related field, with 1-3 years of demonstrated practical experience with cell sorting instrumentation. Code 2118

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POSITIONS OPEN

ECOLOGIST—Visiting assistant professor of biology for the academic year 1989–90, beginning in August 1989. Responsibilities include teaching two courses each semester: limnology and advanced ecology in semester one, both with laboratories; basic ecology and human ecology in semester two; supervision of independent study projects and laboratories. Ph.D. required; *women and minorities are encouraged to apply*. Send curriculum vitae, undergraduate and graduate transcripts, and three letters of reference to: **Dr. Robert S. Chase, Chair, Search Committee, Department of Biology, Lafayette College, Easton, PA 18042. An Equal Opportunity Employer.**

ECOLOGY AND EVOLUTION: Stony Brook—Tenure-track. We seek a **JUNIOR CANDIDATE** in evolutionary or ecological theory, behavior, molecular evolution, or systematics (ideally combined with theoretical or molecular expertise) or an outstanding senior individual in any area complementary to our present faculty. Send curriculum vitae, research and teaching plans, and three letters of recommendation to: **Search Committee, Ecology and Evolution Department, SUNY, Stony Brook, Stony Brook, NY 11794, by 10 March 1989. SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK 3.**

ELECTRON MICROSCOPE FACILITY DIRECTOR: Full-time, nontenure-track position available 1 June 1989. Experience in preparative procedures (conventional, cryomethods, immunolabeling, in situ hybridization, visualization of macromolecules, molecular mass analysis) and operation of high-resolution microscopes required. Must have Ph.D., be willing to collaborate with other investigators in biological/agricultural sciences, and develop own extramurally funded research program. Submit curriculum vitae, statement of research interests, and three letters of reference to: **Dr. Carol V. Gay, 108 Althouse Laboratory, The Pennsylvania State University, University Park, PA 16802, by 15 March 1989. An Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.**

ENDOCRINOLOGY AND METABOLISM

The Division of Endocrinology and Metabolism, Department of Medicine, University of Alabama, School of Medicine, Birmingham, Alabama, announces the availability of additional **FACULTY POSITIONS**. Academic rank will be determined by the qualifications of the individual appointed but assistant/associate professors and instructors are being sought. The positions are open to individuals fulfilling these criteria: (i) Having a research background, being able to perform independent research, and being committed to major involvement in personal and divisional research programs, (ii) Having a firm commitment to and involvement in teaching programs for medical students, housestaff and fellows, (iii) Adding expertise in the management of patients. To apply, send full credentials to: **J. Claude Bennett, M.D., Department of Medicine, 621 Medical Education Building, University of Alabama Medical Center, Birmingham, AL 35294. UAB is an Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION CELLULAR AND MOLECULAR BIOLOGY GROUP WEST VIRGINIA UNIVERSITY (WVU)

The Department of Biology at WVU invites applications for a tenure-track position at the assistant professor level to start 16 August 1989. A Ph.D. and a minimum of 2 years of postdoctoral experience are required. We are seeking a cellular/molecular biologist working on eukaryotic systems. Special consideration will be given to individuals interested in regulatory biology. The successful candidate will be expected to participate in undergraduate and graduate teaching, and to develop a funded research program. Please submit curriculum vitae, a brief description of current and future research plans, and the names and telephone numbers of three individuals who can provide letters of recommendation to: **Dr. Dennis C. Quinlan, P.O. Box 6057, Department of Biology, West Virginia University, Morgantown, WV 26506-6057. Applications must be received by 1 April 1989. WVU is an Equal Opportunity/Affirmative Action Employer. We encourage applications from women and minority group members.**

POSITIONS OPEN

Opportunities for **ENVIRONMENTAL SCIENTISTS, CHEMISTS, ENGINEERS, AND MANAGERS** with industrial and environmental firms located throughout the US. All fees are company paid. We are currently searching for project managers, laboratory managers, toxicologists, industrial hygienists, GC/MS, ICP and data interpretation chemists and environmental engineers at all degree levels. To learn more, call: **Karen Lybrook 401-847-2210** or send your résumé to: **Lybrook Associates, Inc., P.O. Box 572, Newport, RI 02840.**

ESTUARINE SCIENTIST

The University of Georgia's Marine Institute has an opening, beginning 1 September 1989, in the field of salt marsh ecology/estuarine studies. This permanent faculty position is at the assistant/associate level; salary and rank are dependent on qualifications. Appointments are 9-month research positions with no teaching responsibilities and are not tenure-track. Salaries may be supplemented up to 30% through successful grant funding. The successful candidate is expected to develop a vigorous research program in estuarine science and to interact with the current staff. Special consideration will be given to individuals with research experience in ecosystem studies, but all areas of specialization are encouraged to apply.

The Marine Institute is located on Sapelo Island, Georgia, an undeveloped barrier island isolated from the mainland with only water access. Residence on the island is expected.

Interested individuals should send curriculum vitae, names of three references, and a one-page statement of research goals to: **Dr. James J. Alberts, Director, University of Georgia Marine Institute, Sapelo Island, GA 31327. Deadline for applications is 1 May 1989.**

An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION ANATOMY, CELL AND MOLECULAR BIOLOGY

The Department of Anatomy and Cell Biology, SUNY Health Science Center at Brooklyn, New York, invites applications for several faculty positions in an actively growing department committed to expanding its faculty in the area of cellular, molecular, and neuro-biology. One of the positions available is for the directorship of a core facility in structural biology equipped with a Tracor-Northern digital image analysis system and scanning and transmission electron microscopes. Other positions require teaching in our medical school gross anatomy or histology/cell biology or neuroanatomy and participation in graduate school core curriculum. Excellent laboratory facilities, start-up funds and infra-structural support are available for modern biological work. We require a M.D. or Ph.D. degree with postdoctoral experience and demonstrated ability to develop an independent research program. Candidates with research interests in analysis of tissue-specific gene expression, molecular biology of muscle development and neuromuscular disorders, cell surface receptors and membrane channels or signal transduction mechanisms are encouraged to apply. Send curriculum vitae, a statement of research goals, and the names of three references to: **Dr. M. A. Q. Siddiqui, Professor and Chairman, Department of Anatomy and Cell Biology, SUNY Health Science Center at Brooklyn, 450 Clarkson Avenue, Box #5, Brooklyn, NY 11203.**

Equal Opportunity/Affirmative Action Employer. DMC #CR0250.

FACULTY POSITION—BIOLOGY—Mesa State College. Applications are invited from persons with strong backgrounds and interests in developmental biology, genetics and molecular biology. Ph.D. required. Appointment beginning fall 1989, for 1 year with expectation that funding will be approved enabling renewal into a tenure-track position. Primary responsibility is teaching in the areas mentioned and non-majors' courses. Research is encouraged. Deadline: 17 March 1989. Send letter of application and current résumé to: **William Putnam, Dean, School of Natural Sciences, Mesa State College, Grand Junction, CO 81502. Mesa State College is an Equal Opportunity/Affirmative Action Employer. Applications from members of protected classes are especially invited.**

POSITIONS OPEN

ENVIRONMENTAL SPECIALIST to provide technical and scientific support in establishment and maintenance of Ambient Groundwater Monitoring Network with the State; quality assurance/quality control procedures in groundwater sample collection, laboratory analysis and data transfer, using advanced multivariate statistical and numerical methods to evaluate data; provide scientific rationale to establish chemical and physical criteria for monitoring Ambient Network and develop computerized statistical software package and maintain database management system to data generated in the Ambient Network. Require M.S. in analytical chemistry with 1 year of experience or Ph.D. in analytical chemistry in lieu of M.S. and 1 year's experience. Demonstrated ability to perform stated duties. Salary: \$1,979.11 per month. Forty-hour week. 8:00 a.m. to 4:30 p.m. Résumé to: **Job Service of Florida, 1307 North Monroe Street, Tallahassee, FL 32303. Job Order #FL-0036424.**

FACULTY POSITION DEPARTMENT OF BIOCHEMISTRY

The Department of Biochemistry at The University of Texas Health Science Center at San Antonio invites applications for a tenure-track faculty position at the assistant or associate professor level. Candidates with research expertise in any area of contemporary biochemistry or biophysics will be considered. Special consideration will be given to candidates whose research would benefit from access to state-of-the-art protein sequencing and synthesis facilities. Interested applicants should send curriculum vitae, a statement of their research interests, and the names of three professional references to:

**Dr. Merle S. Olson
Department of Biochemistry
The University of Texas
Health Science Center at San Antonio
7703 Floyd Curl Drive
San Antonio, TX 78284-7760**

The deadline for applications is 1 April 1989. *An Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION IN BIOCHEMISTRY, School of Pharmacy, University of Maryland at Baltimore. The Department of Medicinal Chemistry/Pharmacognosy invites applications for a tenure-track faculty position, at the level of assistant or associate professor, for research and teaching in the area of biochemistry. Areas of research interest might include, but are not limited to macromolecular biochemistry, chemistry of proteins and/or nucleic acids or physical biochemistry. Candidates must have demonstrated excellence and independence in their research field. Teaching responsibilities will include participation in biochemistry and microbiology courses for pharmacy students and participation in the graduate program. Candidates should send a complete curriculum vitae, plans for future research, and three letters of recommendation to: **Dr. Marilyn K. Speedie, School of Pharmacy, 20 North Pine Street, Baltimore, MD 21201. An Equal Opportunity Employer.**

FACULTY POSITIONS IN IMMUNOLOGY

The Division of Immunology in the Department of Microbiology at The University of Texas Medical Branch (UTMB) is undergoing vigorous growth. Applicants are being sought for several tenure-track faculty positions (assistant to full professor). Qualified applicants with a Ph.D., D.Sc. and/or M.D. and interested in any area of immunology are invited to apply. Such individuals would be expected to develop an independent research program using innovative approaches (molecular or cellular) to address immunobiological mechanisms. They also would participate in graduate or medical teaching and in the development of our campus-wide Immunology Program. UTMB has an excellent basic science environment, start-up funds, competitive salaries, and modern facilities. UTMB is a large medical center located in Galveston, in proximity to the Houston metroplex. Submit curriculum vitae, statement of research interests, and reprints of recent publications. Additionally, provide the names, addresses, and telephone numbers of three references by 1 May 1989 to: **Immunology Search Committee, c/o Dr. Gary R. Klimpel, Department of Microbiology J-19, UTMB, Galveston, TX 77550.**

UTMB is an Equal Opportunity M/F/H/V Affirmative Action Employer. UTMB hires only individuals authorized to work in the United States.

POSITIONS OPEN

FACULTY POSITION IN FERMENTATION MICROBIOLOGY/BIOTECHNOLOGY, School of Pharmacy, University of Maryland at Baltimore. The Department of Medicinal Chemistry/Pharmacognosy invites applications for a tenure-track faculty position, at the level of assistant or associate professor, for research in the area of fermentation microbiology or biotechnology. Areas of research interest might include, but are not limited to, development of microbial expression systems, mechanisms of protein-secretion, genetic aspects of biocatalysis, or regulation of gene expression. Candidates must have demonstrated excellence and independence in their research field. Teaching responsibilities will include participation in biochemistry and/or microbiology courses for pharmacy students and participation in the graduate program. Candidates should send a complete curriculum vitae, plans for future research and three letters of recommendation to: **Dr. Marilyn K. Speedie**, School of Pharmacy, University of Maryland, 20 North Pine Street, Baltimore, MD 21201. An Equal Opportunity Employer.

FACULTY POSITIONS MOLECULAR CELL OR DEVELOPMENTAL BIOLOGY

Three tenure-track faculty positions in molecular cell/developmental biology in a vigorous, expanding department at a major university in suburban New York City. Rank and salary open; postdoctoral experience and evidence of research productivity are required. Teaching of both undergraduates and graduate students is expected, but the successful candidate will have a primary responsibility to train Ph.D. students in a competitive, externally-funded research program. Substantial start-up funds and newly-renovated laboratory space are available. Candidates should submit curriculum vitae with list of publications, a brief statement of research interests, and the names of at least three references by 23 March 1989 to: **Dr. Richard A. Lockshin**, Chair, Department of Biological Sciences, St. John's University, Jamaica, NY 11439.

LECTURER IN BIOLOGY CARLETON COLLEGE

The Department of Biology invites applications for a full-time, 1-year, non-tenure-track appointment with the possibility of renewal. The position begins September 1989. Teaching duties include full responsibility for an intermediate-level course in vertebrate biology, participation in several team-taught introductory biology courses and, where appropriate, a seminar in the field of interest.

Minimum requirements: A Ph.D. is preferred, and the degree may be in biology, ecology and zoology.

Please send résumé, undergraduate and graduate transcripts and three letters of reference to:

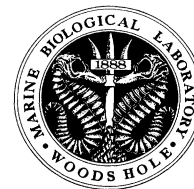
Dr. John L. Tymoczko, Chairman
Department of Biology
Carleton College
Northfield, MN 55057

Closing date for applications is 1 March 1989. Carleton College is an Affirmative Action/Equal Opportunity Employer.

UNIVERSITY OF OXFORD in association with Magdalen College UNIVERSITY LECTURERSHIP IN CHEMICAL PATHOLOGY

Applications are invited for the above post tenable from 1 October 1989. Candidates will have specialized in molecular biology with a strong interest in the application of recombinant DNA technology to medical problems. The holder of this post will be expected to contribute to advanced teaching in cell biology. The ability to make some contribution to introductory teaching in pathology, bacteriology, or virology would be an advantage. Stipend according to age on the scale £9,865 to £20,615. The successful candidate may be offered a tutorial fellowship at Magdalen College. Further details may be obtained from Professor H. Harris, FRSc, Sir William Dunn School of Pathology, South Parks Road, Oxford, OX1 3RE, to whom applications (nine typed copies or one from overseas applicants) with full curriculum vitae, summary of research interests and the names of three referees should be sent by 13 March 1989.

MARINE BIOLOGICAL LABORATORY



AUGUST COURSES—1989

HISTORY OF BIOLOGY: NEUROBIOLOGY AND BEHAVIOR July 30–August 12
A course for biologists, and historians and philosophers of science interested in examining selected topics in the historical development of neurobiology and the biology of behavior. Limited to 25 students. Co-Directors: Richard Burkhardt, University of Illinois and Jane Maienschein, Arizona State University. Course Coordinator: Garland Allen, Washington University. Application Deadline: April 15th.

CELLULAR NEUROBIOLOGY IN THE LEECH August 3–August 23
This course applies techniques and approaches of cellular and molecular neurobiology to the study of a single nervous system, that of the leech. Limited to 10 students. Co-Directors: John G. Nicholls, Biocenter, University of Basel and Kenneth J. Muller, University of Miami School of Medicine. Application Deadline: April 15th.

METHODS IN COMPUTATIONAL NEUROSCIENCE August 6–September 2
This intense, advanced lecture and laboratory course presents the basic techniques necessary to study single cells and neural networks using simulation software developed at the California Institute of Technology. Limited to 20 students. Co-Directors: James M. Bower and Christof Koch, California Institute of Technology. Application Deadline: May 15th.

MOLECULAR EVOLUTION August 20–September 1
This advanced lecture/discussion course for ecologists, organismic and molecular biologists with an interest in molecular evolution provides both theoretical and practical approaches to phylogenetic analyses. Limited to 60 students. Director: Mitchell Sogin, National Jewish Center for Immunology/Respiratory Medicine. Application Deadline: June 1st.

For further information and application forms, contact: **Admissions Coordinator**, Marine Biological Laboratory, Woods Hole, MA 02543, (508) 548-3705, Ext. 216.

Neuroscientist

Parke-Davis Pharmaceutical Research Division, Warner-Lambert Company, has an immediate opening for a Neuroscientist in the Pharmacology Department at their Pharmaceutical Research Facility in Ann Arbor, Michigan.

Responsibilities of the position will be to use in vitro physiological assays for the discovery of new drugs that affect mammalian central or sensory neurons, supervision of one or more assistants and the summarization and communication of results, including preparation of manuscripts for publication.

The successful candidate will have:

- Ph.D. or equivalent with post-doctoral experience in pharmacology, neuroscience or physiology
- Experience with one or more of the following techniques desirable: functional assays of receptor-mediated actions in cell lines or oocytes, in vitro neurophysiological preparations, tissue culture, functional neuroanatomy
- Excellent written and oral communications skills
- Ability to work as part of a team effort

Employment will be at our modern facilities adjacent to The University of Michigan campus. We offer excellent benefits. Interested, qualified applicants should send curriculum vitae and salary requirements in confidence to: Ms. S. Hultquist, Human Resources Representative, PARKE-DAVIS, 2800 Plymouth Road, Ann Arbor, MI 48105.

PARKE-DAVIS

DIVISION OF WARNER LAMBERT COMPANY

"Equal Opportunity in Action"

POSITIONS OPEN

FACULTY POSITION IN PHARMACOLOGY

Faculty position at assistant/associate professor level in pharmacology, tenure-track, for individual interested in neuropharmacology. Candidates should have had at least 2 years of relevant postdoctoral experience. Submit a brief statement of research plans, curriculum vitae, bibliography, and names of three references by 20 March 1989 to: **Dr. H. George Mandel, Department of Pharmacology, George Washington University Medical Center, 2300 Eye Street, NW, Washington, DC 20037.**

*An Equal Opportunity/
Affirmative Action Employer.*

FACULTY POSITIONS IN MOLECULAR VIROLOGY AND YEAST MOLECULAR GENETICS. Tenure-track assistant or associate professor positions in a growing department with research strengths in molecular immunology and pathogenesis. Potential for collaboration with other large research programs in inflammation, oncology, atherosclerosis, and molecular genetics. The successful candidates will be expected to establish an independent research program and participate in the teaching of graduate and medical students. Send curriculum vitae, description of research goals, and names of three references to: **Dr. Steven Mizel, Department of Microbiology and Immunology, Bowman Gray School of Medicine of Wake Forest University, Winston-Salem, NC 27103.** *WFU is an Affirmative Action/Equal Opportunity Employer.*

MANAGER, BIOCHEMICAL SYSTEMATICS LABORATORY

The Field Museum of Natural History invites applications for a new position in the Biochemical Systematics Laboratory. The primary responsibilities of the successful candidate will be to coordinate and conduct the laboratory portion of staff research projects and supervise grant-supported laboratory technicians in the completion of those projects. Current phylogenetic and biogeographic studies employ horizontal starch-gel electrophoresis, but we anticipate employing DNA sequencing and DNA fingerprinting techniques in the near future. Applicants must have a Master's Degree, extensive experience with all aspects of protein electrophoresis (planning through scoring), and preferably are familiar with one or more additional biochemical techniques. Limited research opportunities are possible where compatible with staff research. Salary dependent upon qualifications and experience. Send curriculum vitae, detailed statement of laboratory experience, and three letters of recommendation to:

Dr. Scott M. Lanyon
Head, Division of Birds
Field Museum of Natural History
Roosevelt Road at Lake Shore Drive
Chicago, IL 60605

The Field Museum of Natural History is an Equal Opportunity Employer.

MARINE MICROBIOLOGIST: A new tenure-track faculty position at the assistant or associate professor level is offered with a 12-month appointment (currently 30 to 35% funded from state support) in the College of Oceanography at Oregon State University. We seek a microbial ecologist with primary interest in bacterially mediated processes or trophic dynamics. Candidates whose research interests interact with both biological and chemical oceanography are especially encouraged to apply. The successful candidate will be expected to maintain an active, externally funded research program in marine microbial ecology, participate in teaching marine microbiology and biological oceanography, and supervise graduate students. A Ph.D. in oceanography, microbiology, or a related field and postdoctoral research experience are required. Rank and salary commensurate with experience. Résumé, names, addresses, and telephone numbers of three references must be received by 31 March 1989 by: **Dr. Douglas R. Caldwell, Dean, College of Oceanography, Oregon State University, Oceanography Admin Building 104, Corvallis, OR 97331-5503.**

Oregon State University is an Affirmative Action/Equal Opportunity Employer, complies with Section 504 of the 1973 Rehabilitation Act, and has a policy of being responsive to the needs of dual-career couples.

SCIENTIFIC COMPUTING OPPORTUNITIES

BOEHRINGER INGELHEIM PHARMACEUTICALS, Inc. is a major researcher, developer, manufacturer and marketer of prescription and over-the-counter drugs. We are currently expanding computer and automation resources in our Research and Development Facility in DANBURY, CONNECTICUT.

This M.I.S. Department currently has the following positions available:

Toxicology Information Management/Scientific Programmer Analyst:

BA/BS Degree in Physical or Life Science (or Computer Science with a minor in Life or Physical Science/lab experience). Must have 3 or more years experience in DEC VAX operating systems and programming in PASCAL or FORTRAN along with an understanding of GLP/GMP regulations as they apply to computer applications.

Position is within DBMS group on information management applications development and support in the DEC VAX environment. Emphasis is on toxicology data management but, also includes applications on TRIP, BASIS and ORACLE. Respond to Dept. PTG-1S-854.

Senior Scientific Program Analyst:

Scientific degree, BA/BS, with 3+ years of scientific programming experience or computer science degree with 5+ years of scientific programming experience. Knowledge of PASCAL, TurboImage 3000, HPDesk intrinsics and related HP3000 DBMS tools required. Experience with HP3000 programming and application development and with support of scientific information management application.

Position will provide support and application development to SSIMS, an in-house developed lab management system, as well as support users of the SSIMS system with respect to training, questions and problem resolution. Responsible for development of new applications in HP3000 environment utilizing TurboImage, HPDesk, PASCAL and third party development tools. Respond to Dept. PTG-1S-926.

Our state-of-the-art environment is combined with a highly competitive compensation and benefits package, relocation assistance, and an excellent work environment and the opportunity to have your contributions recognized.

Please send your resume and salary requirements, indicating code, to: **BOEHRINGER INGELHEIM PHARMACEUTICALS, Inc., 90 East Ridge, P.O. Box 368, Ridgefield, CT 06877.** We are an equal opportunity employer m/f/h/v.



**Boehringer
Ingelheim**

Senior Scientist Toxicology

We're the R.W. Johnson Pharmaceutical Research Institute, a member of the Johnson & Johnson Family of Companies. Our strategy is to maintain a fast-growing pharmaceutical business by continuing to develop products of the highest quality.

We currently have a significant career opportunity for an individual to become part of our scientific team. To qualify, you should possess a Ph.D. in Toxicology/Pharmacology or relevant area with 2 years' experience in a pharmaceutical or related setting preferred.

The successful candidate will function as a study director of various types of GLP general toxicology studies. Responsibilities include designing experiments, conducting/managing studies, and accurately summarizing and reporting the findings.

This position supports our important research endeavors and affords professional growth. We offer a competitive salary and the comprehensive benefits of a Johnson & Johnson Company, as well as a convenient suburban Philadelphia location. For immediate, confidential consideration, please submit curriculum vitae and salary requirements, to: **J. Stehr, McNeil Pharmaceutical, Spring House, PA 19477.**

**McNEIL
PHARMACEUTICAL**

A Johnson & Johnson Company

An Equal Opportunity Employer

Help Us Turn Research Into Reality

We're The R.W. Johnson Pharmaceutical Research Institute, a member of The Johnson & Johnson Family of Companies. Our strategy is to maintain a fast-growing pharmaceutical business by providing a clear focus and direction to managing our resources so that we obtain optimum results and provide opportunities for our employees to grow. You can be part of this exciting and meaningful environment and help us discover and develop products of the highest quality if you meet the requirements of one of the following openings at our Raritan, NJ site (near Princeton).

Senior Scientist/ Principal Scientist

Our Drug Metabolism Department seeks a candidate with a PhD or equivalent in Analytical or Organic Chemistry or Biochemistry. Post doctoral experience desired. You should have 3 plus years' industrial experience developing and performing methods for the separation and identification of xenobiotic metabolites; be thoroughly familiar with state-of-the-art computerized analytical technology; be experienced in designing protocols for non-clinical and clinical biotransformation studies.

You will be responsible for directing a staff of scientists in multiple projects, preparing reports for submission to Regulatory agencies and for publication, and interfacing with scientists in Toxicology and Clinical Departments. (Dept. 9A)

Associate Scientist

Our Protein Products Development Department seeks a candidate with a BS or equivalent in Biosciences and 4 plus years' experience; or an MS or equivalent and 2 plus years' experience. The successful candidate will assist in structural elucidation of proteins and peptides. Experience is required in protein analysis, specifically protein sequencing, amino acid analysis and peptide mapping using automated instrumentation. (Dept. 9B)

We offer competitive salaries and the comprehensive benefits you would expect from a Johnson & Johnson Company. We invite you to forward your resume, including salary requirements, to: Mr. Frank Folio, Ortho Pharmaceutical Corporation, Dept # as indicated above, P.O. Box 300, Raritan, New Jersey 08869-0602.

An Equal Opportunity Employer, M/F



THE R.W. JOHNSON
PHARMACEUTICAL RESEARCH INSTITUTE

Opportunities in Drug Discovery Research in Japan



PFIZER TAITO CO, LTD.

Pfizer Central Research at Nagoya, Japan, is offering excellent career opportunities in our expanding drug discovery research programs. The laboratories located 35 km south of Nagoya city are an integral part of Pfizer Central Research worldwide and Pfizer Taito Co. Ltd., a Pfizer Inc. subsidiary. We are seeking scientists at the PhD level with degrees in Biochemistry, Immunology, Pharmacology, Microbiology, and Organic Chemistry, and 1-3 years of postdoctoral or industrial experience. Beyond strong technical expertise, all positions require both extensive Japanese and English communication skills and computer literacy. Specific requirements are as follows:

Immunologist/Biochemist

The successful candidate will have work expertise in cytokines, cell surface receptors, and lymphocyte activation. Initially, this individual will be responsible for developing *in vitro* assays aimed at accomplishing several goals, including evaluation of the role of different mediators in the immune response. Knowledge of tissue culture techniques is essential.

Pharmacologist

A broad knowledge of, and experience with, various animal models of inflammation is essential. The successful candidate will be responsible for developing animal models of arthritis and autoimmunity. Some background in general pharmacology and cellular immunology is desirable.

Microbiologist

A strong background in biochemistry and molecular biology of microorganisms is essential. Knowledge of taxonomy is desirable.

Natural Products Chemist

The successful candidate will become a member of our discovery fermentation group. Experience in modern isolation techniques and spectral methods is essential.

Organic Chemist

Applicants should have extensive expertise in organic synthesis. Responsibilities include design and synthesis of biologically active compounds. Keen interest in the biological aspects of drug discovery is essential.

Pfizer Taito offers competitive compensation and excellent benefits, including a relocation package. Qualified applicants should submit their resumes and a brief description of their research accomplishments to: Mr. Kenji Takamatsu, Director of Personnel, Pfizer Taito Co., Ltd., P.O. Box 226, 1-1 Nishi-Shinjuku 2-Chome, Shinjuku, Tokyo 163, Japan.

POSITIONS OPEN

MATHEMATICAL EPIDEMIOLOGY

A POSTDOCTORAL POSITION in mathematical epidemiology of infectious diseases is available. Specific topics will be arranged on an individual basis. Interested applicants contact: **Dr. Joan L. Aron, Department of Population Dynamics, Johns Hopkins School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, MD 21205.**

MICROBEAM TECHNICIAN THE UNIVERSITY OF TEXAS AT EL PASO

Our current instrumentation in materials science includes an electron microprobe (Cameca SX-50, housed in geological sciences) and an ESCA-SAM-SIMS (Perkin-Elmer Phi 560, in physics). We seek a person with experience on either or both types of instruments to assist with the maintenance and operation of the equipment and associated laboratories. Position initially will be funded by a 5-year grant in materials science; the University is expected to make the position permanent at the end of that period. Salary range \$20,000 to \$25,000 depending on qualifications.

Candidates should send curriculum vitae, a list of three references (include both addresses and telephone numbers), and a brief description of their experience in instrumental laboratories to:

**Nicholas E. Pingitore, Chair
Search Committee
Department of Geological Sciences
University of Texas at El Paso
El Paso, TX 79968-0555
Telephone: 915-747-5754 or 5501**

The deadline for applications is 31 March 1989 or such time as a suitable candidate is found.

The University of Texas at El Paso is an Equal Opportunity/Affirmative Action Employer.



THE UNIVERSITY OF MANITOBA DEPARTMENT OF ZOOLOGY MOLECULAR BIOLOGIST

The University of Manitoba, Department of Zoology invites applications for a tenure-track position, molecular biologist to start September 1989. Salary is dependent on qualifications and experience. Applicants must have a Ph.D. with postdoctoral experience in development, evolution, or genetics. Promising applicants from other areas of metazoan molecular biology are not excluded. Responsibilities include undergraduate and graduate teaching and developing an independent, vigorous research program. Start-up support is available and opportunities exist for collaborative research. *Both women and men are encouraged to apply. In accordance with Canada Immigration, priority will be given to Canadian citizens or permanent residents.* Applicants must submit curriculum vitae, description of research interests, representative reprints and names of at least three references by 15 April 1989 to: **Dr. J. H. Gee, Zoology Department, University of Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.**

MOLECULAR BIOLOGIST

The Department of Pathobiology, College of Veterinary Medicine, Auburn University, invites applications for a tenure-track faculty position. Applicants should have strong training and significant research experience in the molecular or genetic aspects of bacterial disease. A Ph.D. degree and postdoctoral research experience are required; a D.V.M. or equivalent degree and research experience in veterinary bacteriology are desirable. The successful candidate will be expected to develop a strong independent research program, contribute to collaborative research projects, and participate in graduate training programs. Salary and rank commensurate with training and experience. Application deadline is 15 April 1989, or until the position is filled; position available 1 June 1989. Applicants should submit curriculum vitae, summary of current research activities, and names of three references to: **Dr. Lauren G. Wolfe, Department of Pathobiology, Auburn University, AL 36849.** *Auburn University is an Equal Employment Opportunity Employer. Minorities and women are encouraged to apply.*

POSITIONS OPEN

MOLECULAR BIOLOGIST UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

The Division of Human Genetics seeks a full-time, tenure-track investigator using molecular approaches to study gene regulation and expression in mammalian or other eukaryotic systems. The successful candidate will be expected to establish an independent research program and contribute to the training of graduate and professional students. A Ph.D., or equivalent degree, with at least 2 years of relevant postdoctoral training and experience, is required. The ability to obtain independent funding within a reasonable period is essential.

The Division of Human Genetics consists of eight full-time faculty members (five Ph.D. and three M.D.) representing a broad range of basic and applied research interests. The Division offers a Ph.D. degree in human genetics and its clinical training program is fully accredited by the American Board of Medical Genetics.

Salary and academic rank are commensurate with qualifications and experience. Candidates should submit a current curriculum vitae, a detailed statement of past experience, a one-page description of future research plans, and have three letters of reference sent by 15 March 1989 to:

**Dr. Maimon M. Cohen
Division of Human Genetics
655 West Baltimore Street
Baltimore, MD 21201**

*The University of Maryland is an
Equal Opportunity Employer.*

MOLECULAR BIOLOGISTS. PERMANENT OR POSTDOCTORAL to join group engaged in studies on the strain-dependent, tissue-specific gene expression of acutely-regulated murine serum amyloid P component. Research project will focus on identification of regulatory regions of the genes and characterization of DNA binding proteins. The ideal candidate should be well-versed in recombinant DNA techniques although all applicants will be considered. Salary is \$25,000 to \$30,000. Please forward curriculum vitae to: **Dr. John E. Mole, Department of Biochemistry, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, MA 01655.** *UMMC is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR BIOLOGY AND BIOCHEMISTRY IN CARDIOVASCULAR DISEASE

POSTDOCTORAL FELLOW position available for Ph.D. and/or M.D. beginning 1 July 1989. The fellow will be a member of a scientifically exciting group with expertise in thrombosis, thrombolysis and endothelial cell biology. Attractive compensation and surroundings. Research experience in molecular biology or biochemistry preferred. Specific research topics have both clinical and industrial relevance. Please send curriculum vitae and references to: **Marshall Runge, M.D., Ph.D., P.O. Drawer LL, Atlanta, GA 30322.** *Equal Opportunity/Affirmative Action Employer.*

PHARMACOLOGIST/ NEUROPHARMACOLOGIST

Assistant professor/instructor/postdoctoral. Multidisciplinary neuroscience research division seeks pharmacologist/biochemist with experience in receptor/second messenger systems as related to traditional neurotransmitter and peptide systems to join in research related to novel neurotransmitter and trophic agents in brain. Please send curriculum vitae and bibliography to: **K. Koenig/D. J. Reis, Division of Neurobiology, Cornell University Medical College, 411 East 69th Street-KB410, New York, NY 10021.** *Equal Opportunity Employer/Affirmative Action/M/F/H/V.*

PLANT PHYSIOLOGY/PLANT BIOTECHNOLOGY. TENURE-TRACK POSITION. Ph.D. and strong commitment to teaching and research at the undergraduate level required. Submit letter of application, curriculum vitae, brief statement of teaching and research interests, three letters of reference to: **Dr. Eugene Bozniak, Personnel Department, Weber State College, Ogden, UT 84408-1016.** Position will not be filled prior to 7 April 1989. *Equal Opportunity Educator/Employer and invites and encourage applications from women and minorities.*

POSITIONS OPEN

NEUROBIOLOGIST—ASSISTANT PROFESSOR

Position available 1 July 1989. Tenure-track. Research, service, and teaching (neurobiology). Participate in graduate training program. Fundable research program expected. Some local support. Ph.D. plus 2 years of postdoctoral training in neurosciences/cell biology. Send curriculum vitae plus three confidential references to: **Dr. Carl R. Morgan, Department of Anatomy and Cell Biology, East Carolina University, School of Medicine, Greenville, NC 27834-4354.** *East Carolina is a constituent institution of the University of North Carolina, an Affirmative Action/Equal Employment Opportunity Employer. Federal law requires proper documentation of identity and employability at the time of employment. It is requested that this documentation be included with curriculum vitae. Applications should be received by 31 March 1989.*

PHARMACEUTICAL OPPORTUNITIES

Lybrook Associates recruits scientists and managers for some of the finest pharmaceutical companies in the United States. All fees are company paid. Current searches include: Pharmacokinetics/drug metabolism Ph.D.'s for both hands-on and management opportunities. Microbiologist Ph.D.'s with pharmaceutical experience. Quality assurance managers for both start-up and established companies. Organic, medicinal, and analytical chemists at all degree levels for a variety of opportunities throughout the United States. To learn more about pharmaceutical opportunities, call: **Karen Lybrook 401-847-2210**, or send your résumé to: **Lybrook Associates Inc., P.O. Box 572, Newport, RI 02840.**

Garrett Herbarium at the Utah Museum of Natural History seeks a recent Ph.D. **IN PLANT SYSTEMATIC BIOLOGY** to curate a collection of 100,000+ specimens. Will be expected to maintain an independent research program. Possibilities for collaboration with the Department of Biology in terms of research and teaching. Send curriculum vitae, three supporting letters and statement of research interests to: **Director of Utah Museum of Natural History, c/o Personnel Services, University of Utah, 101 Annex Building, SC-5544, Salt Lake City, UT 84112.** Closing date for candidates is 1 April 1989 or until successful applicant is found. *Equal Opportunity Employer.*

PLANT MOLECULAR BIOLOGY/BIOCHEMISTRY ASSISTANT, ASSOCIATE, FULL PROFESSOR

The Department of Biology at The University of Michigan seeks applications for two positions. Both positions are on the tenure-track, and one position is authorized at the level of associate or full professor. We seek applications from individuals who utilize the techniques of plant molecular biology/biochemistry in attacking significant problems related to growth, development or metabolism in plants or algae. The department is now in a period of facilities renewal, and new faculty will be housed in modern laboratories. In addition, the Matthaei Botanical Gardens, a unit of Biology, provides excellent facilities for the growth of experimental material. Biology, in cooperation with the Department of Chemistry, has facilities for oligonucleotide synthesis and molecular graphics; peptide sequencing facilities are close at hand in the Medical School. The successful candidates will be expected to conduct active research programs and participate in the graduate and undergraduate teaching programs of the department. Applicants for a position at the assistant professor level should send a current curriculum vitae and brief statement of future research plans. Applicants should also request letters of recommendation from at least three referees. Applicants for a tenured position should submit curriculum vitae, statement of future research plans, and the names of four references. Candidates for the senior position will be contacted before references are sought, and all communications will be handled in strictest confidence. Application materials for both positions should be addressed to:

**Chair, Plant Molecular Biology Search Committee
Department of Biology
The University of Michigan
Ann Arbor, MI 48109-1048**

Evaluation of applications will begin on 15 March 1989 and continue until these positions are filled.

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

Associate Scientists

Pharmaceutical Cardiovascular Research

We've Created Our
World Research
Headquarters
With Scientists
In Mind



Welcome to our state-of-the-art facility, designed by scientists to meet the changing needs of pharmaceutical research into the next century. You'll find that our environment is uniquely suited to the exchange of ideas across many disciplines. Your participation as a team member will be encouraged, and you'll also have ample opportunity to pursue your own professional objectives. Join us in Wallingford, Connecticut, in one of these challenging positions:

Pharmacology / Stroke Research

MS/BS in Physiology, Pharmacology or related discipline and 2-4 years laboratory experience in methodologies associated with drug evaluation. Requires experience with in vivo/in vitro stroke models and radioisotopes.

Pharmacology / Hematology

BS/MED TECH with pharmacology/hematology experience to conduct in vitro and ex vivo studies in platelet aggregation and thrombosis. Phlebotomy and analytical skills desirable.

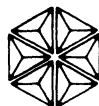
Molecular Biology

MS/BS with 2-4 years experience in molecular biology research, including some/all of the following techniques: molecular cloning, DNA sequencing, RNA isolation, Northern/Southern blotting, primer extension analysis, cell culture and in situ hybridization. Research will involve application of molecular biological techniques to the study of atherosclerosis, including discovery of novel therapeutic approaches at the molecular level and study of basic molecular processes in atherogenesis.

Biochemistry

MS/BS in Biochemistry, Cell Biology or related area with 2-5 years experience in biochemical, immunological and tissue culture techniques; including some/all of the following: chromatography, protein electrophoresis, fluorometry, ELISA and RIA. Position involves the study of vascular endothelial cells, platelets and other blood cells as they function in thrombosis, hemostasis and atherogenesis.

BRISTOL-MYERS is a growth leader and major global competitor in pharmaceutical research and development. We provide highly competitive salaries and benefits in an attractive countryside location, convenient to Connecticut cultural centers, New York and New England. Learn how you can contribute to our cardiovascular drug research by sending your resume with salary history, noting position of interest, to: **BRISTOL-MYERS COMPANY, Pharmaceutical Research & Development Division, Attn: AT292S, P.O. Box 5100, 5 Research Parkway, Wallingford, CT 06492.** An Equal Opportunity Employer M/F/H/V.



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POSITIONS OPEN

POSITIONS IN PLANT MOLECULAR BIOLOGY TEXAS A&M UNIVERSITY

POSTDOCTORAL POSITIONS are available immediately to work on *cis*- and *trans*-acting factors involved in the developmental control of plant gene expression. Experience in recombinant DNA techniques and DNA sequencing are required; additional experience in plant gene transfer methods or analysis of DNA-protein interactions is preferred. Applications, including curriculum vitae and the names of three references with addresses and telephone numbers, should be directed to: **Dr. William D. Park, Department of Biochemistry and Biophysics, telephone: 409-845-8868, or Dr. Terry L. Thomas, Department of Biology, telephone: 409-845-0184.**

Texas A&M University
College Station, TX 77843

Texas A&M University is an Equal Opportunity Employer.

POSTDOCTORAL FELLOW: HHMI-SAN FRANCISCO-UCSF Immunology-Molecular Neurobiology. A position is available beginning summer 1989 in a laboratory studying neuropeptide receptor function, gene structure and regulation. Applicants should have an M.D./Ph.D. or Ph.D. Experience with recombinant DNA techniques is essential. Send curriculum vitae, statement of interests and three letters of reference to: **Dr. Donald G. Payan, U-426, University of California San Francisco, 3rd and Parnassus, San Francisco, CA 94143.**

POSTDOCTORAL FELLOW/RESEARCH ASSISTANT to study oxygen transport, blood rheology, and microvascular blood flow by intravital microscopy in sickle cell disease and other blood disorders. Requirements: Ph.D. in bioengineering or physiology. Related experience desirable. Send curriculum vitae with names and addresses of references to: **Herbert H. Lipowsky, Chairman, Bioengineering Program, The Pennsylvania State University, 233 Hallowell Building, University Park, PA 16802.** *An Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL FELLOW/ RESEARCH ASSOCIATE

The Blood Center of Southeastern Wisconsin, an internationally recognized leader in blood cell-related research, is pleased to announce the availability of a position within the Platelet Molecular Biology Laboratory. Qualified candidates will participate in a multidisciplinary approach, employing molecular biological, biochemical, and immunological techniques to the study of cell surface membrane glycoprotein receptors. Experience in one or more of the following disciplines is desirable: Molecular biology cell culture and transfection analysis, membrane protein biochemistry, or receptor characterization. Send curriculum vitae and the names of three references to: **Dr. Peter J. Newman, The Blood Center of Southeastern Wisconsin, 1701 West Wisconsin Avenue, Milwaukee, WI 53233.** *The Blood Center of Southeastern Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIP available immediately for NIH-funded studies on molecular mechanisms and regulation of brain development. Background in neuroscience, experience in molecular biology and tissue culture desirable. Send curriculum vitae, recent reprints, and the names of three references to: **Dr. Robert Fellows, Department of Physiology and Biophysics, The University of Iowa, 5-660 Bowen Science Building, Iowa City, IA 52242.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately to study G protein-mediated signal transduction. Experience in biochemistry, cell culture, and molecular biology is desirable. Send curriculum vitae and the names of three references to: **Dr. Joel Abramowitz, Department of Medicine, Baylor College of Medicine, 6565 Fannin, M.S. F505, Houston, TX 77030.**

Cambridge NeuroScience Research is a research and development company which focuses on Neurobiology and its applications. We have a new, well-equipped facility located in Cambridge, Massachusetts, close to M.I.T. and Harvard University. We are seeking a Group Leader and Staff Scientist for our Neurotrophic Growth Factor Program.

Senior Scientist - Protein Chemistry

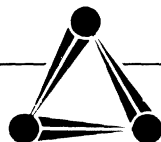
The candidate should have a Ph.D. with a minimum of 3 years' post-doctoral experience with state-of-the-art techniques, including HPLC and other microanalytic methods of protein purification and characterization. The successful applicant will have developed a reputation for independent research.

Staff Scientist - Cell Biology

The candidate should have a Ph.D. and at least three years' experience with the culture of cells from the nervous system.

These scientists will interact with molecular biologists, cell biologists, and neuropharmacologists within the Company and with the Company's extensive network of well-respected neuroscience consultants.

Cambridge NeuroScience Research offers a stimulating research environment with competitive salaries and excellent benefits, including Founders Stock. **Applicants for the above positions should send their curriculum vitae and the names of three references to: CNS Research, Human Resources Manager, One Kendall Square, Building 700, Cambridge, MA 02139, U.S.A.**



CNS RESEARCH

Senior Toxicologist Ophthalmic Drugs/Devices

Alcon Laboratories is a \$500 million plus multinational pharmaceutical company and the recognized industry leader in ophthalmic research. Due to continued growth, we are seeking an achievement-oriented Senior Toxicologist with the ability to make significant contributions within our Research and Development Division.

The successful candidate will:

- Design, supervise and analyze pre-clinical safety studies for ophthalmic drugs and devices.
- Prepare technical reports and toxicology segments of government submissions (e.g., INDs/NDAs).
- Perform basic research for development of improved techniques for assessing drug/biomedical device safety.
- Have high visibility through project team involvement.

Qualifications include:

- Ph.D. in Toxicology.

- 5 or more years experience in conducting preclinical safety evaluations.
- Highly developed written and verbal communication skills.
- Board certification in toxicology preferred.

We offer an excellent opportunity for professional growth and recognition within a stimulating research environment. In addition, we offer a competitive salary, a comprehensive benefits package and a desirable Fort Worth location with recreational, cultural and economic advantages indigenous to the Sunbelt. For immediate and confidential consideration, please send resume with salary history to: **Sherry H. Rightmer, Employment Supervisor, Placement and Development, T1-3, Alcon Laboratories, Inc., P. O. Box 6600, Fort Worth, Texas 76115.**

Equal Opportunity Employer, M/F/V/H
Principals Only, Please

Alcon®
LABORATORIES

Director

Parke-Davis Research Institute Sheridan Park Research Center, Mississauga, Ontario, Canada

The Parke-Davis Research Institute is dedicated to toxicological research and safety testing of new pharmaceuticals as part of the worldwide drug development efforts of the Parke-Davis Pharmaceutical Research Division, Warner-Lambert Company.

We are seeking a strong individual with a DVM, MD or Ph.D. in Toxicology or equivalent advanced degree in science. Certification in Pathology, Toxicology or equivalent is desired.

This senior research management position is directly responsible for the operation, planning and conduct of toxicology studies by a large group of scientists. A minimum of 8-10 years of research experience in toxicology/pathology of laboratory animals from safety evaluations is desired, preferably with experience in a multi-disciplinary environment of toxicology research. Working knowledge of all aspects of toxicity testing, including general toxicology, pathology, mutagenesis, clinical laboratory sciences and reproductive toxicology will be necessary, together with knowledge of Good Laboratory Practice regulations, worldwide testing and regulatory guidelines and experience in regulatory affairs.

This leadership position requires an exceptional person with long-term growth potential, excellent publication record, national/international recognition and demonstrated record of independent biochemical, toxicological or biological research.

Excellent written and oral communications skills and interpersonal effectiveness with management background are essential. This senior scientist would also have experience in successfully leading scientists, encouraging open communications and working in a complex matrix organization, actively interacting with senior research management, and having administrative control of a large budget and scientific projects.

This high quality laboratory constitutes a part of the worldwide toxicology research efforts and the position reports to the Vice President, Pathology and Experimental Toxicology, located at the division research headquarters in Ann Arbor, Michigan, USA.

Enjoy an excellent program of benefits, relocation and compensation, in addition to a high quality of life environment, which makes this position very attractive for a long-term career with Warner-Lambert.

In compliance with Canadian Government Regulation, preference will be directed to Canadian citizens or permanent residents.

Join this respected worldwide leader in pharmaceutical research. Send curriculum vitae and references in confidence to: Mr. T. Romps, Human Resources Representative, PARKE-DAVIS Pharmaceutical Research Division, 2800 Plymouth Road, Ann Arbor, MI 48105, USA.

PARKE-DAVIS

DIVISION OF WARNER-LAMBERT COMPANY

"Equal Opportunity in Action"

Request for Applications

GENE THERAPY AND CYSTIC FIBROSIS

The Cystic Fibrosis Foundation invites investigator-initiated grant applications on the fundamental scientific issues associated with applying gene therapy to cystic fibrosis (CF).

This request is intended to encourage innovative and meritorious projects that can advance the study of CF gene therapy while the search for the CF gene continues. Research areas responsive to this request include, but are not limited to:

- Identification of appropriate airway cells for therapeutic replacement of defective CF genes;
- Development and risk assessment of vector systems for delivering the normal allele of the CF gene into airway cells;
- Development of model systems for examining the scientific, safety and technical issues associated with CF gene therapy.

Research approaches and models must be directly relevant to the application of gene therapy to CF. Applicants may request support for up to three years; funding levels will be commensurate with the scope of projects.

The deadline for submission of applications is **July 1, 1989**. For further information and application forms, please contact **Dr. Robert J. Beall** or **Ms. Dale Glass** at the



6931 Arlington Road
Bethesda, MD 20814
(301) 951-4422

University of California, Davis CELLULAR NEUROBIOLOGY TRAINING PROGRAM

Funding is available to support qualified individuals for training in cellular neurobiology at both postdoctoral and predoctoral levels. Successful applicants will join a young, vigorous neurobiology group that is highly interactive and in which collaborations are common. We particularly encourage participation of trainees in projects involving the expertise of two or more training faculty:

Hilary Anderson, Development of insect nervous systems
Richard Carlsen, Cell biology of axonal and muscle regeneration
Leo Chalupa, Prenatal development of mammalian visual system
Carol Erickson, Morphogenesis and differentiation of neural crest
Mark McNamee, Molecular biology of ACH receptors
Brian Mulloney, Generation and modulation of motor patterns
Pamela Pappone, Biophysics of ion channels
Robert Scobey, Retinal physiology
Barry Wilson, Cholinesterases and neurotoxicology
Martin Wilson, Cell biology of the retina

For more information, contact Dr. Brian Mulloney, Director, Cellular Neurobiology Training Program, Department of Zoology, University of California, Davis, CA 95616, or phone

(916) 752-7468.

UCD is an Equal Opportunity/
Affirmative Action Institution.

LA TROBE UNIVERSITY (AUSTRALIA) SCHOOL OF BIOLOGICAL SCIENCES CHAIR OF GENETICS AND HUMAN VARIATION

Applications are invited for appointment to the Chair of Genetics and Human Variation in the School of Biological Sciences which has become vacant following the resignation of the foundation professor, Professor P A Parsons.

Research and teaching activities in the Department encompass a broad spectrum of interests, including human genetics (demographic, anthropological and health, immunogenetics and cancer genetics, molecular genetics); ecological and conservation genetics (plants, insects, mammals, marine invertebrates); evolutionary genetics (insects, marsupials, plants); and molecular and cell biology of eukaryotes, especially mammals. A major strength of the Department is its diversity of approaches to the study of the phenomena of heredity.

The University invites applications from distinguished scientists in any field of genetical research. The successful applicant will possess an outstanding research background in his or her chosen field, and will be expected to demonstrate strong academic leadership and a dedicated commitment to teaching within the Department.

The University reserves the right not to make an appointment or to make an appointment by invitation.

Salary: \$A63,397

Further information can be obtained from the Dean, School of Biological Sciences [telephone (03)479.2196], or from the Manager, Staffing and Secretariat [telephone (03)479.2026].

Applications should quote reference number 150-0-217 and include a curriculum vitae and the names and addresses of three referees. The application, marked 'In Confidence', should be forwarded to the Manager, Staffing and Secretariat, La Trobe University, Bundoora, Victoria 3083 by 31 March 1989.

Equal Opportunity is University Policy

ANNOUNCEMENT

Recruitment of Executive Director

The International Union Against Cancer, a non-governmental organization, wishes to recruit an Executive Director for its secretariat in Geneva.

Applicants should be knowledgeable in medical affairs, especially in the field of cancer and preferably in the international field. A pleasant and diplomatic character trait would be helpful in our fund raising activities.

Languages: fluent English and a good working knowledge of French are expected.

Date of engagement will be decided by mutual agreement.

Applications with a curriculum vitae, photocopies of diplomas and degrees, and the names of two referees should be sent to:

Dr. Max M. Burger
International Union
Against Cancer
3, rue du Conseil-Général
CH-1205 Geneva



ANALYTICAL CHEMIST

SIGMA CHEMICAL COMPANY, a subsidiary of Sigma Aldrich Corporation, is the world's leading supplier of research biochemicals and organics. As a result of our continual growth, we are seeking professional chemists to staff our expanding analytical laboratories.

Requirements include a BS/MS in chemistry or biochemistry and/or experience with traditional wet method chemistry and instrumental analysis in one or many of the following areas: TLC, HPLC, GC, UV-VIS, FTNMR, FTIR, AA, ICP, electrophoresis and protein analysis. Successful candidates will develop and implement methods for qualitative and quantitative analysis of research grade organics and biochemicals. Good communication skills are essential.

This is an excellent opportunity to join a rapidly expanding market leader. Selected applicants will be provided with compensation commensurate with experience and education, plus a full company-paid benefits package. **Stop by and see us at the Employment Bureau at PITCON.** Send your confidential resume to:

Personnel Manager (CAM)
SIGMA CHEMICAL COMPANY
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St. Louis, MO 63178
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CHEMICAL COMPANY

PHYSICS INSTRUCTOR/ ASSISTANT

**SUNY College of Technology
at Utica/Rome**

Tenure track position to develop and teach courses in support of engineering technology programs.

QUALIFICATIONS: PhD in any area of experimental or bio-physics and commitment to excellence in undergraduate teaching. Salary and rank commensurate with education and experience.

Send letter of application and resume by March 1, 1989, to:

Anthony F. Panebianco
Director of Personnel
/Affirmative Action

**SUNY
College of Technology
at Utica/Rome**
Drawer 907
P.O. Box 3050
Utica, New York
13504-3050
Affirmative Action/
Equal Opportunity
Employer



CONFERENCE

The Second International Workshop on Cytokines

10 to 14 December, 1989
Hilton Head, South Carolina

This meeting has as its goals a) to encompass and integrate the most recent data concerning cytokine synthesis, release, regulation, actions, and interactions, and b) to assess the *in vivo* effects of these cytokines on cell, tissue, organ and organism metabolism, physiology, and immunity. The topics to be covered include structure, gene expression, regulation of synthesis and release, receptors and post receptor events, cytokine activities, alone and in combination, assays for and inhibitors of the cytokines. Among the cytokines to be considered are the interleukins, the interferons, TNF, TGF, PDGF, chemotactic factors, the various colony stimulating factors, bone and connective tissue growth factors, as well as newly identified activities/factors. The significance of these cytokines and their interactions in growth, development, and in protection against, as well as pathogenesis of, illness and injury will also be considered.

Among the invited speakers are: Robert Friedman (interferons), Tadimitsu Kishimoto (IL-6), Thomas Maciag (ECGF), Lloyd Old (TNF), Russell Ross (PDGF), Ruth Sager (GRO), Arthur Silverstein (historical perspective). The content of the rest of the meeting will be based on the submitted abstracts.

Abstracts will be published in the premiere issue of CYTOKINE (W B Saunders Company). Deadline for receipt of abstracts is 15 June 1989. For abstract forms, meeting information, and registration forms contact: Sherwood M. Reichard, Cytokines, c/o RES Society, Box 3044 MCG, Augusta, GA 30912 USA.

POSTDOCTORAL OPPORTUNITY

Lederle Laboratories, a division of American Cyanamid Co., is recognized internationally as a leader in the research, development and manufacture of vaccines for the prevention of viral and bacterial disease.

Currently, the Biologicals Department of Viral Vaccine Research and Development is seeking an energetic and talented individual to work as an integral member of a multi-faceted scientific team. This project will involve studies of host immune response to viral antigens both *in vivo* and *in vitro*. There will also be extensive interaction with our cell biology group which uses state-of-the-art technology for the culture of mammalian cells and expression of viral antigens.

The individual we are seeking will be a recent graduate with a PhD in Immunology, Biology or Biochemistry, will have hands-on experience in experimental cellular immunology and be familiar with contemporary techniques in protein biochemistry.

We offer an excellent salary and benefits package, including 401k savings plan, and a convenient Rockland County location just 25 miles north of New York City. If you're ready to make a contribution to a challenging program, send your resume to: Lederle Laboratories, Professional Employment Office, Middletown Road, Pearl River, NY 10965. We are an equal opportunity employer.



**Dedicated People
Dedicated to People
Since 1906.**

Experimental Oncologist

Biomeasure, Inc., a leader in the field of therapeutic peptides, has an immediate opening for an Experimental Oncologist to support research and on-going product development at the preclinical level. The successful candidate shall have:

- A Ph.D. in biological sciences and at least three years experience in tumor biology and "in vivo" tumor models.
- A proven ability to design, conduct and interpret "in vitro" and "in vivo" experiments as evidenced by publication records.
- Excellent communication skills and ability to interact with laboratory staff and physicians in charge of clinical studies.

Located near Boston, **Biomeasure, Inc.** provides state-of-the-art facilities, a supportive and stimulating environment for the conduct of research, and the opportunity to collaborate with leading research institutions.

Excellent compensation and benefits package available for qualified applicants.

Send resume and salary requirements in confidence to: Human Resources.

Biomeasure

9-15 "E" Avenue
Hopkinton, MA 01748

OPPORTUNITIES IN ENVIRONMENTAL RESOURCES/REMOTE SENSING

The Department of Environmental Resources, Cook College-Rutgers University, a multidisciplinary department focusing on environmental and natural resource planning and management issues, has a number of faculty and staff positions available with starting dates of July 1, 1989. Effective August 1989 the Department will be relocating to a new building that will contain dedicated space for the Cook College Remote Sensing Center.

The following 12 month tenure track **Faculty Positions** are available. The successful candidate will be expected to establish a vigorous research program and participate in an appropriate graduate program.

- 1. Assistant/Associate Professor of Environmental Management.** The position requires a Ph.D. with at least one degree in a physical or biological science and a proven research record in remote sensing focusing on watershed or environmental management issues. Teaching responsibilities will include remote sensing, quantitative methods, and participation in an interdisciplinary air photo interpretation course.
- 2. Assistant Professor of Forest Hydrology/Forest Management.** The position requires a Ph.D. with at least one degree in forestry and specific education and/or experience in watershed management, remote sensing, and/or geographic information systems. Teaching responsibilities will include a course in silviculture, watershed management/remote sensing, and participation in a multidisciplinary air photo interpretation course.
- 3. Assistant Professor of Environmental Planning and Management.** The position requires a Ph.D. in environmental planning, environmental management, or a related field with at least one degree in a physical or biological science. Teaching responsibilities will include an undergraduate two semester course in environmental planning and a course in environmental management. Research experience should be in the area of land or water resources and/or geographic information system development or applications.

The following 12 month **Staff Positions** are available pending confirmation of grant funding as of July 1, 1989:

- 1. Associate Director, Cook College Remote Sensing Center** (Salary Range \$39,252-52,987). Under the supervision of the Director, the Associate Director will oversee the day-to-day operation of the Center's research and instructional programs. The Associate Director will be expected to play a direct role in both the ongoing research activities of the Center and the development and funding of new research programs. At a minimum, the successful candidate will have a M.S. in a physical or quantitative science and three years experience in remote sensing research. The successful candidate will have demonstrated the ability to secure external funding.
- 2. GIS/Training Coordinator** (Salary Range \$30,753-41,521). The GIS/Training Coordinator will report jointly to the Director of the Cook College Remote Sensing Center and the Director of the Office of Continuing Professional Education. The Training Coordinator will be responsible for the development of training materials and Continuing Professional Education Programs focusing on the GRASS GIS package. The Training Coordinator will also provide support for the research activities of the Remote Sensing Center. The position requires a bachelor's degree in a physical, quantitative, or environmental science; knowledge of GIS fundamentals and techniques preferred; and previous experience in professional education.

Applications, including a letter of interest, curriculum vitae, brief summary of research interests and goals and names of three references should be sent to: **Diane S. Reed, Administrative Assistant, Department of Environmental Resources, Cook College Rutgers University, P.O. Box 231, New Brunswick, New Jersey 08903.** Review of applications will begin on March 15, 1989 and continue until the positions are filled. Cook College-Rutgers University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIP available immediately for research on the role of lymphokines and macrophage activation in the immune response and control of cancer.

Background in either biochemistry/immunology/microbiology/molecular biology desirable, but not essential. Send curriculum vitae and the names of the three references to: **Dr. Lawrence B. Lachman, Department of Cell Biology-173, M. D. Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available in February 1989 NMR/biochemistry to perform NMR imaging on an animal model for sickle cell vasoocclusion, to perform data analysis for clinical MRI studies of sickle cell patients, and use high resolution NMR (200 to 500 MHz) to study abnormal and malaria-infected red cells. Send curriculum vitae and references to: **M. E. Fabry, Department of Medicine, Ullman Room 921, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.**

POSTDOCTORAL POSITION is available immediately to study genetic regulation of the cell cycle in mammalian cells. Isolation of recombinant clones encoding genes which play a significant role during the cell cycle, expression/regulation of such genes and their encoded mRNA/mRNP complexes, and the impact such genes have on tumorigenesis will be pursued as part of an ongoing research program. Starting salary is \$24,000. Send curriculum vitae and three letters of reference to: **Dr. R. Curtis Bird, Department of Pathobiology, Auburn University, AL 36849. Auburn University is an Equal Employment Opportunity Employer. Minorities and women are encouraged to apply.**

POSTDOCTORAL POSITION available to study interaction of leukotrienes with cerebrovascular tissue, cultured astrocytes, endothelial cells and neurons. Studies will focus on the inflammatory, immunomodulatory and ischemic interactions of leukotrienes with cerebrovascular and brain tissues. Research will involve an examination of receptor interactions, generation of secondary messengers, calcium mobilization, regulation of neurotransmitter and leukotriene synthesis and metabolism. Familiarity with receptor binding, gas or liquid chromatography, immunohistochemistry, enzymology, cell culture and computers is desirable, but not essential. Send résumé, reprints and three letters of reference to: **Dr. Dana M. Vaughn, Medicinal Biochemistry Laboratory, Scott-Ritchey Research Program, College of Veterinary Medicine, Auburn University, Auburn, AL 36849. Salary commensurate with experience. Auburn University is an Equal Opportunity Employer. Minorities and women are encouraged to apply.**

POSTDOCTORAL POSITION available immediately to study the genes involved in cellular proliferation and programmed cell death in tissues of the mammalian urogenital tract. Multidisciplinary approach involving nucleic acid and protein technology to identify and characterize the genes required for normal and abnormal growth in renal and prostate models. Coincident with analysis of clinically related human diseases to determine the relevance of abnormal gene activity to urogenital pathology. Experience with molecular biological techniques essential. Send curriculum vitae and the names of three references to: **Dr. Ralph Buttyan, Department of Urology, Columbia University College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available to study genetic defects resulting in enzyme deficiencies in UMP synthase and possible immune system defects associated with hereditary orotic aciduria. Other research involves analysis of the bifunctional domain structure of UMP synthase using site-directed mutagenesis and vector expression in bacterial and cell culture systems. Applicants with a strong background in molecular biology and/or protein biochemistry are preferred. Two to 3 years of funding is available starting at \$22,000. Send curriculum vitae and names of three references to: **Dr. D. Parker Suttle, Department of Pharmacology, St. Jude Children's Research Hospital, 322 North Lauderdale, Memphis, TN 38101-0318. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION

Available for an organic, medicinal, or biochemistry Ph.D. to develop techniques to sequence acidic polysaccharides. Background in carbohydrate chemistry, electrophoresis/biopolymer sequencing, enzymology, NMR, and HPLC desirable. Ability to work across disciplines essential. Salary: \$19,000 plus fringe benefits.

Send résumé and two letters of reference to: **Professor Robert J. Linhardt, Division of Medicinal and Natural Products Chemistry, College of Pharmacy, University of Iowa, Iowa City, IA 52242.**

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

POSTDOCTORAL POSITION

Postdoctoral position is available for studying lipoprotein/cholesterol metabolism in animal models of atherosclerosis. Candidate should have previous experience in lipoprotein characterization and metabolism. Candidate will learn to investigate the hepatic and intestinal regulation of apolipoprotein gene expression. Salary \$25,000 per year. Position is contingent upon funding.

**Robert J. Nicolosi, Ph.D.,
University of Lowell
Clinical Science
Weed 302
Lowell, MA 01854**

The University of Lowell is an Equal Opportunity/Affirmative Action, Title IX, 504 Employer.

POSTDOCTORAL POSITION: Expertise in molecular biology needed to study gene expression of leukemia cell surface glycoproteins, glycosyl transferases and multidrug-resistant phenotypes. Writing skills essential. *Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae to: **Robert N. Taub, M.D., Ph.D., Division of Oncology, Columbia College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032.**

POSTDOCTORAL POSITION is available to work on gonococcal pathogenesis. Applicant should have a background in molecular biology or molecular immunology. Inquiries for further information or applications including curriculum vitae, a statement of experience and goals, and three letters of reference, should be directed to: **Dr. M. A. Apicella, Department of Medicine, SUNY at Buffalo, School of Medicine, 462 Grider Street, Buffalo, NY 14215. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION—Molecular biology and biochemistry of hormone receptors. Send résumé and request that three recommendations be sent to: **Dr. Gerald Litwack, Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, 3401 North Broad Street, Philadelphia, PA 19140. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION available 1 April 1989, to work on recombination and gene transfer in microbes from an evolutionary perspective. Salary range \$18,000 to \$26,000 depending on experience. Send curriculum vitae, statement of research interests and letters of reference by 17 March 1989 to: **Dr. Richard Michod, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ 85721.**

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

POSTDOCTORAL POSITION

To study the mechanism of translational initiation at the Banting and Best Medical Research Department. Experience in molecular biology and/or biochemistry and three letters of reference are required. Write: **Dr. M. C. Ganoza at:**

**Banting and Best Department of Medical Research
University of Toronto
Charles H. Best Institute
112 College Street
Toronto, Ontario
M5G 1L6**

POSITIONS OPEN

POSTDOCTORAL POSITION

To investigate the control of protein phosphorylation by insulin in muscle and fat cells. Available spring of 1989. Salary: commensurate with experience. Send curriculum vitae and three letters of recommendation to: **Dr. John C. Lawrence, Department of Pharmacology, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO 63110. Washington University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN CELLULAR NEUROBIOLOGY

Position available immediately to study physiology and pharmacology of synaptic events in the spinal slice preparation and molecular mechanisms of tachykinin actions. Project involves the use of single-electrode voltage-clamping and whole-cell voltage-clamping with a patch electrode. Send curriculum vitae, statement of research interests, and names of three references to: **Mirjana Randic, Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine, Iowa State University, Ames, IA 50010. Closing date: 1 March 1989.**

POSTDOCTORAL POSITION IN DROSOPHILA NEUROBIOLOGY

Position available immediately to study neuropeptide biosynthesis. Experience in biochemistry and molecular biology required. Salary commensurate with experience (\$28,852 to \$34,580). Send résumé and three letters of recommendation to: **Drs. Thomas J. Kelly/Edward P. Masler, Insect Reproduction Laboratory, USDA-ARS, BARC-East, Building 306, Room 323, Beltsville, MD 20705. Applications must be marked 1B4360. An Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS available immediately on behavioral neuroscience training grant. Laboratories include those of **M. Gabriel** (electrophysiology of learning), **M. Gillette** (neurophysiology of circadian rhythms), **R. Gillette** (motor patterning), **W. Greenough** (CNS plasticity), **J. Juraska** (sex differences in brain), **V. Ramirez** (regulatory endocrinology), **E. Roy** (neuroendocrinology and behavior), **M. Salmon** (sensory patterning), and **E. Satinoff** (sleep, thermoregulation). Salary: \$17,000 to \$24,000. Send curriculum vitae, statement of research interests, and three letters of recommendation to: **E. Satinoff, Psychology Department, University of Illinois, 603 East Daniel Street, Champaign, IL 61820. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE position available to study the superoxide-generating respiratory burst oxidase of human neutrophils, including its mode of activation and enzymology. Preference given to recent Ph.D. in biochemistry with experience in one or more of the following areas: enzymology; membranes; biochemistry of leukocytes. Send curriculum vitae and three letters of reference to: **Dr. Dave Lambeth, Department of Biochemistry, Emory University Medical School, Atlanta, GA 30322. Emory University is an Equal Opportunity/Affirmative Action Employer.**



POSTDOCTORAL RESEARCH ASSOCIATES TWO POSITIONS AVAILABLE

- 1) To study mechanisms of glycoconjugates synthesis and secretion in human epithelial cell cultures.
- 2) To immortalize epithelial cell cultures derived from tissues of normal human and patients with respiratory disorders and to investigate mechanisms of secretions at the biochemical and molecular levels.

Candidates should have pertinent experience in biochemistry of mucopolysaccharides, gene cloning, eukaryotic gene regulation, blot hybridization, cDNA libraries, in vitro transfection and oncogenesis. Send curriculum vitae with name and addresses of three references to: **Dr. Dharam P. Chopra, Institute of Chemical Toxicology, Wayne State University, 2727 Second Avenue, Room 402, Detroit, MI 48201.**

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

Lilly Research Laboratories POSTDOCTORAL SCIENTIST PROGRAM

Eli Lilly and Company

THE LILLY RESEARCH LABORATORIES, a Division of Eli Lilly and Company, is offering postdoctoral research opportunities in several areas of biology, pharmacology, and chemistry. Postdoctoral Scientists will work in close association with Lilly scientists who are involved in the basic research process of drug discovery. Publication and presentation of results will be an integral part of the program. This postdoctoral experience is designed to give individuals in-depth research training in a focused area of biology and/or chemistry. The program will also provide an opportunity to become acquainted with the drug development process within the pharmaceutical industry. Postdoctoral Scientists will be expected to participate fully in the conceptual and design phases of projects, within the following areas:

Molecular Neuroendocrinology Research

Applicant should be Ph.D. or M.D., with strong background in molecular biology. The position will permit a blend of talents and techniques in molecular biology with those in neuroendocrinology. This multidisciplinary approach will be used to uncover cDNA sequences of neurohormone genes in domestic animals and to investigate their regulation of anterior pituitary function. Approaches include cDNA cloning, sequencing, expression, pituitary cell culture, and other molecular biology and endocrinology techniques.

Molecular Oncology and Pharmacology Research

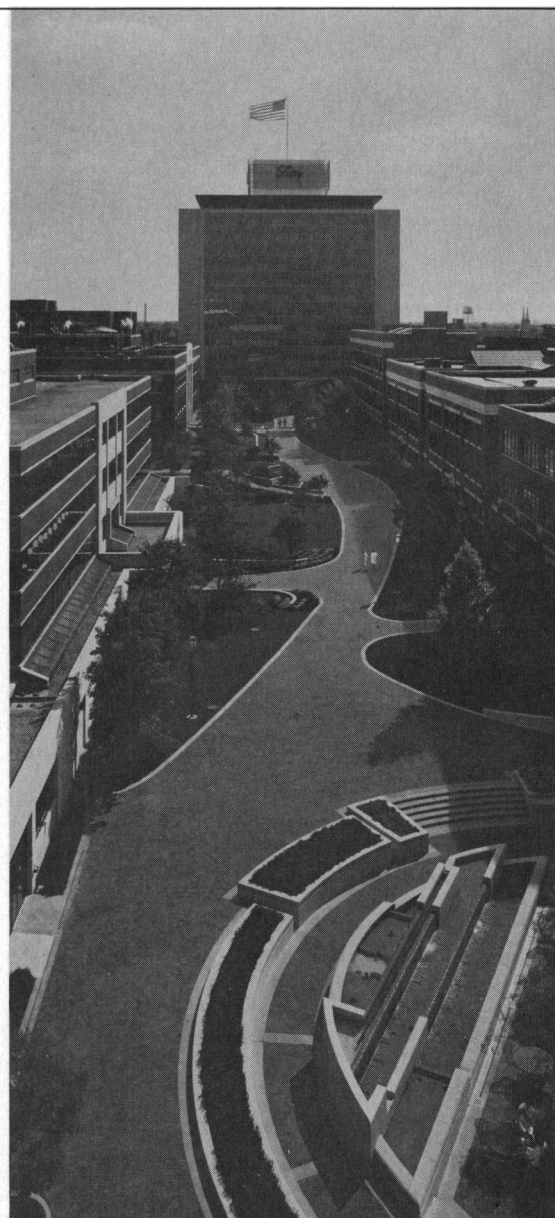
Applicant should have background in pharmacology, biochemistry, or molecular biology. Research will involve studies on mechanism of action of novel anticancer drugs using human tumor xenografts. The role of cellular oncogenes in determining drug sensitivity and evaluation of new inhibitors of oncogene function will be a primary focus of the program.

Protein Folding Research

Applicant should have experience in such relevant areas as: optical spectroscopy, hydrodynamic techniques, or protein chemistry. The position will be in the Pharmaceutical Research Department to study the physical properties of proteins that are produced through biotechnology development. The proposed research will study protein folding, association, and solubility.

Postdoctoral appointments are of one-year duration and are renewable for a second year with mutual agreement. Candidates with no more than one previous postdoctoral experience are encouraged to apply.

Eli Lilly and Company will provide a comprehensive pay and benefits program including relocation expenses.



Qualified applicants should send their current curriculum vitae, *indicating program of interest to:*

John W. Crooks, Manager
Ph.D. Recruitment (PSP)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285



Equal Opportunity Employer

POSITIONS OPEN

POSTDOCTORAL POSITIONS

Lipids-Atherosclerosis-Nutrition Training Program funded by NHLBI. Postdoctoral traineeships are available for research and training in areas of (i) role of cholesterol in membranes, (ii) structure and molecular biology of lipid transfer protein and cholesterol esterases, (iii) familial and molecular studies on dyslipoproteinemia, (iv) cholesterol and bile acid homeostatic mechanism, (v) pathogenesis of atherosclerosis, (vi) role of branched chain amino acids in lipid metabolism and nutrition, (vii) modulation of lymphocyte physiology by membrane-bound lipoproteins, and (viii) neonatal nutrition. Faculty includes M. Ashraf, Ph.D., W. F. Balistreri, M.D., B. N. Campaigne, Ph.D., J. A. K. Harmony, Ph.D., J. E. Heubi, M.D., D. Y. Hui, Ph.D., J. E. Fischer, M.D., R. L. Jackson, Ph.D., S. A. Khan, Ph.D., F. Schroeder, Ph.D., D. L. Sprecher, M.D., M. T. R. Subbiah, Ph.D., and R. C. Tsang, M.D. Candidates with a Ph.D. degree in biomedical or behavioral fields and those with M.D. degree, with appropriate research experience, are eligible to apply. *Applicants must be U.S. citizens or hold an immigrant visa.* Send curriculum vitae with three letters of recommendation indicating the special area of research interest to: **Dr. M. T. R. Subbiah, Program Director, Lipids-Atherosclerosis-Nutrition Training Grant, University of Cincinnati Medical Center, 231 Bethesda Avenue, K-Pavilion, M. L. #540, Cincinnati, OH 45267.**

POSTDOCTORAL RESEARCH ASSOCIATE needed. Research on the synthesis of organic compounds. This job involves the operation of High Resolution FT-NMR (Fourier Transform-Nuclear Magnetic Resonance), LC (Liquid Chromatograph) IR (Infrared) and organic compound characterization equipment. Forty hours per week, 8:00 a.m. to 5:00 p.m.; \$17,000 per year. Six years of grade school, 5 years of high school, 4 years of college, Doctor of Science degree with major in organic chemistry. One year of experience as research assistant in chemistry field. Apply at the Texas Employment Commission, Arlington, Texas, or send résumé to: **The Texas Employment Commission, TEC Building, Austin, TX 78778, J.O. #5424217.** *Ad paid by an Equal Employment Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS

(Ph.D.'s) available in immunology group studying HIV-1. One position is available to study the role of protein phosphorylation in the infection of CD4(+) T-cells by HIV-1. A second position is available developing immunogenic vaccines to HIV-1, HTLV-II and tumor antigens, utilizing genetic engineering. Experience in molecular biology and/or cellular immunology is desirable. Send curriculum vitae and three letters of reference to: **Dr. Stephen E. Wright, Texas Tech University School of Medicine, Department of Internal Medicine, 1400 Wallace Boulevard, Amarillo, TX 79106-1797.**

PROFESSOR OF MARINE STUDIES. The Institute for Marine Studies, College of Ocean and Fishery Sciences, University of Washington, invites applications for a position available September 1989 at the assistant or associate professor level. The appointee will have primary responsibility for a multidisciplinary academic program concerning the management of fisheries and should be qualified to teach appropriate courses in the IMS curriculum. The candidate should be a social scientist (e.g., natural resource economist, sociologist, etc.) with considerable knowledge of fishery science, possess a Ph.D. or equivalent degree, have specialized in the study of marine living resources, have practical experience in some aspect of resource management, have a strong publication record, and have teaching experience.

Applicants should provide curriculum vitae, statements concerning the applicant's views on the central problems in fishery management, and the applicant's research interests, reprints of several recent publications, and names and addresses of four references to: **Marc L. Miller, Search Committee, Institute for Marine Studies HF-05, University of Washington, Seattle, WA 98195.** The closing date is 30 March 1989.

The University of Washington is an Affirmative Action/Equal Opportunity Employer. Women and members of minority groups are encouraged to apply for this position.



SEEKS SCIENCE WRITERS/ PRESS VETERANS

for its Research Division Headquarters
in Yorktown Heights, NY

IBM is seeking four seasoned science journalists/scientific press relations veterans for challenging publicity positions at its Research headquarters in the New York Metropolitan area.

This is an excellent opportunity for talented writers who can transform complex technical ideas into lucid English prose and who have the ability to formulate and execute successful, national-scale publicity plans. You will enjoy a stimulating working relationship with a world-class scientific staff, and have the opportunity to deliver the first word of their discoveries to the public.

These are career positions with a firm that promotes from within and offer a range of career possibilities in the U.S. and abroad. Travel is involved. We offer good salaries, commensurate with experience and ability, and excellent benefits. Interested persons should send a resume with references to: **Joyce Rescigno, Sr. Recruiter, IBM Research Division, P.O. Box 218, Dept. S, Yorktown Heights, NY 10598.**

An equal opportunity employer

PROJECT COORDINATOR Pharmaceutical Development

Merck & Co., Inc., located in Rahway, NJ invites applications for a position as Project Coordinator in the Merck Sharp & Dohme Research Laboratories (MSDRL). This is an entry-level position in the Project Planning & Management Department (PP&M) with responsibility for the planning and coordination of all development activities required to support regulatory filings (U.S./Overseas) for new molecular entities in a specific therapeutic area.

PP&M has overall administrative responsibility for the planning, coordination/management and tracking of all new drug development projects in MSDRL. This activity involves interaction with all scientific departments within MSDRL, both Basic Research and Development, and personnel at all levels of management. In addition, PP&M coordinates communications with other Divisions of the company including Marketing, Manufacturing and Licensing in order to ensure the achievement of corporate objectives.

Applicants should have a BS or MS degree in science and/or business and 3-5 years experience in a project management function in the pharmaceutical industry.

Merck Sharp and Dohme Research Laboratories is located in Rahway, New Jersey, approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. Please send resume with salary history and the names of three references to **Ms. Lonnie L. Deetz, Human Resources Associate, P.O. Box 2000, Rahway, New Jersey 07065.** Equal Opportunity Employer.



Merck & Co., Inc.

ENVIRONMENTAL MICROBIOLOGISTS

The Technology Department of Occidental Chemical Corporation has immediate openings for Microbiologists interested in the challenging area of microbial degradation of environmental contaminants. The positions are located at the Corporate Technology Center on Grand Island, NY between Buffalo and Niagara Falls.

An Environmental Microbiologist will perform laboratory experiments; do process design and scale up; and engage in on-site activities which support environmental remediation projects. The job may also involve planning, project management, and supervision of other professional and technical personnel.

The successful candidate will have a degree in Microbiology, Microbial Ecology, or similar discipline, and a demonstrated track record of independent work. An advanced degree is desirable in addition to field experience related to project activities.

OxyChem offers an excellent working environment, career growth opportunities, and a competitive salary and benefits package. For confidential consideration, please send resume and salary requirements to:

Alice M. Grant
Supervisor, Human Resources
**OCCIDENTAL CHEMICAL
CORPORATION**

2801 Long Road
Grand Island, NY 14072
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Biochemist

Immunoassay Development/ Support

Abbott Laboratories has made a long-term commitment to outstanding research. We now seek a Biochemist to bring talent and experience to our Technical Product Development Group.

Selected candidate will be responsible for technical troubleshooting and product and process development for our hepatitis product line. The position requires the ability to quickly evaluate and resolve technical problems relating to the manufacturing, development, testing and field performance of diagnostics tests. Excellent interpersonal skills are required.

An M.S. and three years experience or Ph.D. in Biochemistry, Immunology, or Molecular Biology are required. Postdoctoral and supervisory experience are desired.

Abbott Laboratories provides an excellent compensation and benefits package, including profit sharing. For consideration, please send a resume with salary history and references to:
**Keith Allen, Corporate Placement, Dept. TPD,
Abbott Laboratories, Abbott Park, IL 60064.**
Abbott is an Affirmative Action Employer.

ABBOTT LABORATORIES



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Predoctoral and Postdoctoral Fellowships NSF Center for Microbial Ecology Michigan State University

The recently established NSF Center for Microbial Ecology at Michigan State University invites applications for 12 predoctoral and 11 postdoctoral fellowships.

The aim of the Center is to understand the **diversity, function and competitiveness** of microorganisms in their habitats. Findings will have impact on the: development of effective and environmentally safe genetically engineered microorganisms; destruction of hazardous wastes; improved bioconversion of natural polymers; and biological control of plant pests.

The Center's faculty consists of a multidisciplinary team from eight academic departments. The faculty include **Microbial Ecologists** (J.A. Breznak, F.B. Dazzo, M.J. Klug, J. Lockwood, E.A. Paul, C.A. Reddy, J.M. Tiedje, M.T. Yokoyama, and J.G. Zeikus) and **Microbial Geneticists** (M. Bagdasarian, W.C. Champness, D.W. Fulbright, J.H. Jackson, L.R. Snyder, M.F. Thomashow, P.J. Oriel, and C.P. Wolk), as well as **Ecologists** (G.L. Bush and G.P. Robertson), **Chemists** (C.G. Enke), **Engineers** (H.E. Grethlein and T.M. Vogel) and a **Mathematician** (F.C. Hoppensteadt).

The research will be conducted in the following areas:

- **Gene Pool Accessibility:** Investigation of the prevalence of, mechanisms for, and barriers to gene transfer in nature.
- **Population Genetics and Diversity:** Determination of genetic and physiological diversity within microbial communities and their effect on overall performance or function of the communities.
- **Novel Organisms:** Isolation and characterization of new organisms for pollutant degradation and industrially important bioconversions.
- **Physiological Bases of Competition:** Definition of the mechanisms of microbial adhesion to substrata and their impact on microbial competition and ecological function; importance of natural toxins to microbial competition.
- **Environmental Control of Microbial Functions:** Determination of the interrelationship between the environment, the physiochemical character of complex substrates (lignocellulosics and humates), and the biodegradative capacities of microbes.

- **Chemical and Molecular Microbial Ecology:** DNA probe methods for assessing gene exchange, population diversity and functional groups; advanced GCMS and data analysis for characterizing microbial diversity.

PREDOCTORAL FELLOWSHIPS: The Center will be accepting applications throughout the year although interested individuals are urged to submit applications as soon as possible.

POSTDOCTORAL FELLOWSHIPS: The Center invites applications from scientists with experience in microbial ecology/physiology/ genetics and/or other focal areas of research described above. Applicants should submit curriculum vitae, the names of three references, and a letter describing research interests and relevant experience.

Address correspondence to: **Dr. James Tiedje, Director,
Center for Microbial Ecology, Plant and Soil Sciences
Building, Michigan State University, East Lansing, MI
48824. Telephone (517) 353-9021.**

MSU is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

Applicants are being sought for a **POSTDOCTORATE** to carry out research on enzyme mechanism in a modern research laboratory at the Texas College of Osteopathic Medicine (TCOM). TCOM is a state-supported medical school housed in a new, well-equipped facilities and affiliated with the University of North Texas. Applicants are expected to have background in enzyme purification and steady-state kinetic techniques. *TCOM is an Equal Opportunity/Affirmative Action Employer.*

Send curriculum vitae and names and addresses of three references to: **Dr. Paul F. Cook, Chairman, Department of Microbiology and Immunology, Texas College of Osteopathic Medicine, 3500 Camp Bowie Boulevard, Fort Worth, TX 76107-2690.**

BROWN UNIVERSITY PROFESSOR AND CHAIRPERSON, SECTION OF PHARMACOLOGY

The Division of Biology and Medicine plans to appoint a Professor and Chairperson of Pharmacology during the academic year 1989-90. With the construction of a new wing to the Biomedical Center, opportunities exist to develop the current program in biochemical pharmacology into a broadly-based unit in the pharmacological sciences, which interacts with programs in biochemistry, molecular biology, neurobiology, pathology, and clinical pharmacology. The successful applicant is expected to lead this development, to establish a vigorous research program of national distinction, and to take administrative responsibility for pharmacology teaching at Brown. Pharmacology faculty participate in medical, graduate, and undergraduate teaching. The integrated structure of the Division of Biology and Medicine maximizes opportunities for research and teaching interaction among all of the biological and medical sciences, as well as with other disciplines at Brown University. Applicants should submit curriculum vitae, representative reprints, and the names of three references to: **Dean Frank G. Rothman, Division of Biology and Medicine, Brown University, Providence, RI 02912.** The deadline for receipt of these application materials is 31 March 1989. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

Prominent medical center has an immediate opportunity available for a candidate with a strong background in biochemistry to participate on a 3-year NIH-funded project to investigate signal transduction in isolated gastric cells. Candidates should have a Ph.D. in biochemistry with experience in protein isolation and characterization, and expertise in SDS-PAGE, column chromatography, HPLC, TLC, and iso-electric focusing. We offer a salary range of \$26,000 to \$32,000 (commensurate with experience). Send curriculum vitae with names, addresses, and telephone numbers of three references to: **Dr. Jean-Pierre Raufman, SUNY Health Science Center at Brooklyn, 450 Clarkson Avenue, Box 1196, Brooklyn, NY 11203-2098.** *Equal Opportunity/Affirmative Action Employer. DMC #CR0251.*

PROTEIN CRYSTALLOGRAPHY AND STRUCTURAL CELL BIOLOGY. Applications are invited for a **POSTDOCTORAL POSITION** involving application of these disciplines in an on-going x-ray crystallographic study of a number of actin-binding proteins, including profilin, involved in the cytoskeleton and cell motility. The position is sponsored jointly by **Drs. Thomas D. Pollard and Eaton Lattman** at the Johns Hopkins University School of Medicine. Membership in the newly established Institute for Biophysical Research on Macromolecular Assemblies may be possible. Experience in at least one of these areas is preferred, but persons with experience in physics or protein chemistry and an interest in moving into biophysics are also encouraged to apply. The position is available in the spring for a period of 2 to 3 years. Salary \$18,000 to \$20,000, depending on experience. Please contact either: **Dr. Thomas D. Pollard, Department of Cell Biology and Anatomy, Johns Hopkins Medical School, Baltimore, MD 21205-2185; telephone: 301-955-5664; or Dr. Eaton Lattman, Department of Biophysics, Johns Hopkins Medical School, Baltimore, MD 21205-2185; telephone: 301-955-1210.** *Johns Hopkins is an Equal Opportunity/Affirmative Action Employer. Applications from minorities or women are particularly encouraged.*

POSITIONS OPEN

RESEARCH INSTITUTE OF SCRIPPS CLINIC DEPARTMENT OF IMMUNOLOGY POSTDOCTORAL RESEARCH FELLOW

A postdoctoral position is available immediately for an immunologist/biochemist/molecular biologist to participate in studies of endocytosis of human histocompatibility antigens. Projects include biochemical and mutagenic analyses of structural requirements for endocytosis of histocompatibility antigens, analysis of intracytoplasmic processing/degradation pathways, and effects of endocytosis on the generation of immune responses. Experience with recombinant DNA techniques and protein analysis is desired. Salary is negotiable, depending upon experience. Send curriculum vitae and three letters of reference to: **Dr. Per A. Peterson or Dr. Shaokue Wu, Department of Immunology, Research Institute of Scripps Clinic, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

RESEARCH ASSOCIATE/ POSTDOCTORAL RESEARCH UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)

Conduct research in the area of chemical carcinogenesis. The successful candidate will carry out research requiring familiarity with the Ames Assay for mutagenesis, the micronucleus test for assessment of clastogenicity, and the ³²P-postradiolabelling assay for measurement of DNA adducts. The research requires use of radiolabelled compounds and a strong knowledge of chromatographic techniques. A Ph.D. degree is preferred, but other candidates with appropriate experience will be considered. Salary is commensurate with background and experience. Interested candidates, please send curriculum vitae and names of three references to: **Dr. John R. Froines, Division of Environmental Health, UCLA School of Public Health, Los Angeles, CA 90024.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

Chemist

PROJECT LEADER PROTEIN/HAPTEN CHEMISTRY

Agri-Diagnostics Associates (ADA), a leader in the development and marketing of new biotechnology products for agriculture, offers a new position of Project Leader - Protein/Hapten Chemistry.

The project leader will serve as lead scientist and be responsible for developing small organic molecule immunogens for use in immunoassay development and for validation of immunoassay systems.

Requirements include a PhD in biochemistry or organic chemistry, experience in synthetic chemistry, working knowledge of HPLC/TLC/GC-MS and spectrophotometric techniques. Experience in immunochemistry and molecular and macromolecular devitization and characterization desirable.

ADA, a joint venture of DNA Plant Technology and Koppers Corporations, offers an excellent compensation and benefits package. We are an exciting and growing organization located 15 minutes from Center City Philadelphia. Please send your resume and salary history to:

Human Resources

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RESEARCH VETERINARIAN/ SCIENTIST TISSUE REPAIR

Amgen, an emerging leader in the biopharmaceutical industry, is actively seeking a scientist who has an interest in developing and understanding animal models of tissue repair and regeneration. This position offers the opportunity for full collaboration and interaction with a team of multidisciplinary scientists actively engaged in research to understand mechanisms of tissue repair and the biological effects of polypeptide growth factors on accelerating repair processes.

Candidates for this position must have a degree in veterinary medicine and/or doctoral degree and research experience. In addition, an interest and background in pathology, pharmacology, toxicology or a related discipline is desirable. Familiarity with current NIH and AALAC guidelines for animal research is also desirable.

Amgen offers an excellent compensation and benefits package, including equity offerings, as well as an attractive location northwest of Los Angeles. If you would like to be a part of a company that places a high priority on its human resources and offers a stimulating and challenging research environment, please send a complete CV, in confidence, to:

**Recruitment, Dept. #376
AMGEN
1900 Oak Terrace Lane
Thousand Oaks
CA 91320**

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HEALTH SCIENTIST ADMINISTRATOR IN ENDOCRINOLOGY

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) seeks an endocrinologist (Ph.D. or equivalent) with a track record of research accomplishment and excellent interpersonal and written communication skills to serve as Health Scientist Administrator for its Endocrinology Research Program. This position involves administration of grants and contracts, program planning and development, close interaction with leading endocrine researchers, and the opportunity to organize and/or attend scientific meetings. The position is available September 1989 at a salary range of \$41,121 to \$63,172 per annum. Please submit Application for Federal Employment (SF-171) and/or CV and bibliography by March 31, 1989 to:

**Dr. Judith Fradkin, Chief
Endocrinology and Metabolic Diseases
Programs Branch
NIH, NIDDK
Westwood Bldg. Room 603
5333 Westbard Avenue
Bethesda, MD 20892**



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VERITAS

Veritas Pharmaceuticals, Inc., a start-up multidisciplinary biotechnology company focused on the use of structural biology and organic chemistry to design and develop novel human therapeutics, has been formed in the Boston area. The company brings together the latest advances in the disciplines of molecular biology, cell biology, enzymology, biophysics (primarily X-ray crystallography and protein NMR spectroscopy), biochemistry, organic chemistry, peptide chemistry, computational chemistry, and molecular modeling to tackle protein-related drug targets, leading to the design and development of small molecule enzyme inhibitors and receptor agonists or antagonists. These disciplines will be supported fully in-house with state-of-the-art technology. The unique coordinated application of these advanced disciplines will allow a new rational approach to drug design. We are seeking applications for talented and innovative individuals who can assume leadership positions within these core disciplines. Salary and benefits are excellent, and a substantial equity position in the company can be anticipated. If interested, please direct a detailed resume in confidence to: **Veritas Pharmaceuticals, Inc., P.O. Box 825, Cambridge, MA 02238**. An Equal Opportunity Employer M/F.

TOXICOLOGIST

Abbott Laboratories, a successful provider of quality healthcare products and services worldwide, continues its commitment to top-quality management. Currently we have an opportunity for an experienced Toxicologist for our Division of Drug Safety Evaluation.

Duties will include study design, management and reporting of both in-house and contracted studies. In addition, the successful candidate will be involved as liaison between Toxicology and other groups within the Corporation.

A PhD in Pharmacology or Toxicology and a minimum of 2 years experience are required. Good interpersonal skills as well as excellent abilities in communication via both oral and written presentations are a must. Knowledge of the drug development process and appropriate GLP's are essential; board certification is desirable.

In addition to excellent salaries and a benefits package that includes profit sharing and a stock retirement plan, we offer a beautiful suburban location approximately 30 miles north of Chicago. For consideration, please send your resume with salary history to: **Patricia Handy, Corporate Placement, Dept. SCI/2-10, Abbott Laboratories, Abbott Park, IL 60064**. Abbott is an Affirmative Action Employer.

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**Cystic Fibrosis
Research Grants for
NIH-APPROVED
BUT**

UNFUNDED APPLICATIONS

The Cystic Fibrosis Foundation (CFF) announces the availability of funding for highly meritorious applications that have been submitted to and approved by the National Institutes of Health (NIH) but remain unfunded.

This new CFF research grant offers support for outstanding CF-related research projects until NIH or other agency funding can be obtained.

Proposed projects must have been reviewed by an NIH study section and presented to an institute council within 12 months of applying to this program. In addition, applications must fall within the upper 50th percentile, with a scientific priority score of 250 or better.

Applications must be clearly relevant to CF. A maximum of \$75,000 in annual support will be available for up to two years.

Applications are being accepted on a continuing basis. Investigators are encouraged to contact the Foundation to discuss the potential relevance of their work. For more information, contact **Dr. Robert J. Beall** at the



6931 Arlington Road
Bethesda, MD 20814
(301) 951-4422

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THE PENNSYLVANIA STATE UNIVERSITY
COLLEGE OF MEDICINE**

The Department of Anesthesia, The Pennsylvania State University College of Medicine invites applications for Chief, Division of Anesthesia Research. Candidates must have a Ph.D. or M.D. degree with sound research experience. Outstanding research facilities are available in a strong academic environment. Opportunities exist for collaboration and a joint appointment in a basic science department is possible. The successful candidate will be expected to develop, maintain and lead a strong research program and to participate in the teaching of medical students and residents. Please respond by March 1, 1989. Send a description of research interests, curriculum vitae and the names of three references to:

Julien F. Biebuyck, M.B., Ch.B., D. Phil.

Eric A. Walker

Professor and Chairman
Department of Anesthesia
College of Medicine

The Pennsylvania State University
Hershey, Pennsylvania 17033

Equal opportunity/Affirmative Action Employer

Ph.D. MOLECULAR BIOLOGIST

Merck Sharp & Dohme Research Laboratories is currently offering an excellent career opportunity for a Ph.D. level Molecular Biologist in the Department of Cellular and Molecular Biology. Research in this department focuses on the isolation and expression of genes of potential pharmaceutical interest, in addition to the development of live viral vectors. Past successes within this department have been the development of Recombivax, the first licensed human vaccine derived by recombinant DNA technologies, and the use of live Varicella viruses as vectors. Another significant strength of this department is the application of recombinant yeast expression systems. Merck Sharp & Dohme Research Laboratories provides an environment that enhances scientific growth and productivity and encourages scientific publications and attendance at scientific meetings.

We are seeking a highly motivated individual with a desire for a position of visibility and leadership. Relevant interest and experience in full length cDNA library construction, new viral vector applications and protein structure-function relationships are desirable. A Ph.D. in Molecular Biology/Biochemistry/Microbiology or the equivalent is required with at least four years of significant postdoctoral and academic/industrial experience.

Excellent salary and benefits program accompany this position at our modern research facilities in West Point, Pennsylvania.

Please send your resume, including the names of three professional references whom we may contact, and salary requirements in complete confidence to:

Ad #1-C Research Personnel (W42-2)

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

Equal Opportunity/Affirmative Action Employer, M/F/H/V



Merck & Co., Inc.

**RESEARCH SCIENTISTS
ANALYTICAL
BIOCHEMISTRY**

Amgen has immediate opportunities for Research Scientists in Analytical Biochemistry to participate in the development of methods for protein characterization and protein stability using normal and reversed phase HPLC and other analytical techniques.

Qualified applicants for these positions must have a Ph.D. in Biochemistry or a related discipline with an emphasis in analytical methods and instrumentation.

Amgen is a dynamic and growing organization providing an exciting and innovative research environment as well as an attractive location northwest of Los Angeles. **Amgen** also offers an excellent compensation and benefits package.

Qualified candidates should send a c.v., including references, in confidence to:

**Recruitment, Dept. #346
AMGEN
1900 Oak Terrace Lane
Thousand Oaks
CA 91320**

*Equal
Opportunity
Employer*

AMGEN

SENIOR SCIENTIST

CNS—DRUG DISCOVERY

The Psychopharmacology Section of the Experimental Therapeutics Department at Wyeth-Ayerst Research has an immediate opening for a Senior Scientist. The primary responsibilities of this position will be to conduct and direct research designed to assess the CNS activity of novel agents in the therapeutic target areas of anxiety, depression, psychosis or antimentia.

Candidates should possess a Ph.D. in the Life Sciences with 0-3 years laboratory experience or a BS/MS degree with an extensive neuroscience laboratory background. Experience in the *in vivo* psychopharmacological analysis of the mechanism of drug action and excellent communication skills are essential. Supervisory experience and knowledge of integrated computer systems desired.

Wyeth-Ayerst is a division of Fortune 100 American Home Products Corporation and offers an excellent salary and benefits package along with opportunities for career advancement. Our state-of-the-art laboratory facilities are located along the Route 1 research corridor in Princeton, NJ and are convenient to the Philadelphia/New York metropolitan areas. Candidates who wish to join our research team should forward their curriculum vitae along with salary requirements to:

Personnel Manager, Dept. 2773



**WYETH-AYERST
RESEARCH**

CN 8000

Princeton, NJ 08543-8000

An Equal Opportunity Employer M/F/H/V

RESEARCH TECHNICIANS

The Biotechnology Division at the Amoco Research Center in Naperville is currently seeking applications for Research Technicians.

TECHNICIAN/MOLECULAR BIOLOGY

The selected candidate's research will focus on basic and applied aspects of microbial genetic engineering and gene expression. Applicants must have a Bachelor's or Master's degree in Molecular Biology or a related field and have experience in a molecular biology laboratory. Preference will be given to applicants with prior DNA sequencing, gene cloning and gene expression experience.

TECHNICIAN/BIOCHEMISTRY

The candidate's research area will emphasize basic and applied aspects of microbial and plant biochemistry. The position requires a Bachelor's or Master's degree in Biochemistry, Microbiology, Molecular Biology or a related field. Experience in analytical biochemistry, protein biochemistry and gene cloning are desirable.

Selected individuals will receive salaries commensurate with experience, a comprehensive benefits package and a congenial work environment. Please forward your resume, indicating position of interest, in complete confidence to:



Support Staff Recruiter

AMOCO RESEARCH CENTER

P.O. Box 400/Dept. FB129

Naperville, IL 60566

Equal Opportunity Employer M/F

Program Project Coordinator

Oversee program development including space and equipment needs and coordinate with the appropriate constituencies the preliminary design, construction and operation of Brandeis University's National Energy Center in complex systems research.

The Center is an exciting multi-million dollar project to develop an interdisciplinary research environment focusing on complex systems by integrating computer science and artificial intelligence, cognitive science, experimental physiology, and the neurosciences.

You will need a background in science and engineering, an understanding of computational and laboratory space requirements, an appropriate degree, and a demonstrated ability to deal effectively with personnel involved in the project including architects, contractors, scientists, administrators and the Department of Energy.

Please forward your resume and salary requirements to: Dr. Arthur H. Reis, Jr., Associate Dean for Research and Planning, Irving 104, Brandeis University, P.O. Box 9110, Waltham, MA 02254.

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**BRANDEIS
UNIVERSITY**

President

University of
Maryland at
Baltimore

The Regents of the University of Maryland System invite applications and nominations for the position of President of the University of Maryland at Baltimore.

The University of Maryland at Baltimore, established in 1807, is the "founding institution" and principal professional center of the University of Maryland System. The campus is located on 34 acres near Baltimore's Inner Harbor and includes presently six professional schools—medicine, dentistry, law, nursing, pharmacy, and social work and community planning—an interdisciplinary graduate school and a major medical center which includes the R A Cowley Shock Trauma Center.

The University, with an enrollment of 4,528 and a full-time faculty of 955, offers programs at the bachelor's, master's, specialist, and doctoral levels. Current research grants and contracts total annually approximately \$61 million, and the institution's budget is \$250 million. The affiliated medical system has an additional budget of more than \$200 million.

The President is the chief executive officer of the institution and is responsible for the direction of all operations. The President also serves as a senior administrator in the University of Maryland System and reports to the Chancellor and the Regents of the 11-institution System.

Candidates should have earned a doctoral or equivalent professional degree from an accredited institution; be able to demonstrate outstanding accomplishments in their managerial and scholarly endeavors; have a strong history of leadership and possess a sound philosophy in educational policy.

Salary is competitive and commensurate with experience and qualifications.

Nominations and applications are currently being considered. If possible, nominations should include the current resume of the nominee, the names of three references, and any other supporting material, and should be sent to: Charles W. Tandy, c/o The Presidential Search Committee, Office of the Vice President, University of Maryland at Baltimore, 520 West Lombard St., Baltimore, MD 21201.

The University of Maryland at Baltimore is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

RESEARCH ASSISTANT PROFESSOR

The Department of Microbiology, Division of Molecular Virology and Immunology at Georgetown University Medical Center seeks candidates for a research position to join an NIH-funded project working on animal model systems for AIDS. We require a veterinary pathologist with training in molecular biology techniques, previous experience with retroviruses preferably AIDS-related viruses, HIV or SIV and 1 to 3 years of postdoctoral experience. This is a nontenure-track position with a salary range of \$38,000 to \$46,000. Send letter of application and curriculum vitae to:

Dr. John L. Gerin
Division of Molecular
Virology and Immunology
5640 Fishers Lane
Rockville, MD 20852

An Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSISTANT PROFESSOR OF BIOCHEMISTRY IN MEDICINE position available at the University of Pennsylvania. Must be Ph.D. with experience in protein chemistry and/or molecular biology. Cell biology experience is helpful. Send curriculum vitae and bibliography to: **Elliot S. Barnathan, M.D., Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104.** *An Equal Opportunity/Affirmative Action Employer; we encourage female and minority candidates.*

RESEARCH ASSOCIATE/POSTDOCTORAL PROTOPLAST FUSION EXPERT/ MOLECULAR BIOLOGIST

Full-time position available immediately for an individual with protoplast fusion expertise and/or experience in RFLPs, or western analysis. Send résumé and names and telephone numbers of three references to: **Mariam Sticklen, 126 Natural Resources, Michigan State University, East Lansing, MI 48824.**

RESEARCH ENGINEER—Massachusetts-based Worldwide importer/distributor of non-destructive scientific instrumentation seeks a research engineer to research: unsteady flow in capillary columns; results derived from interfacing liquid components at high pressure with company's mass spectrometers using various parameters at varying temperatures; and results due to non-linearity of fluid flow and spray formation. Requirements: Ph.D. in engineering/fluid-mechanics; 3 years of research (may be part of Ph.D.) in numerical/computer modeling of fluid flow problems including mathematical modeling in unsteady three-dimensional turbulent fluid conditions; experience modeling data and information derived from mass spectrometers, constructing mathematical models of effects of heat transfer in various materials, and finite differences techniques (including ADI or other related modeling systems), and must be able to use Fortran. Forty hours per week; \$35,000 per year. Apply by résumé only to: **The Department of Employment and Training, Hurley Building, Boston, MA 02114.** Case #9495.

RESEARCH FACULTY POSITION IN RETROVIROLOGY PUBLIC HEALTH RESEARCH INSTITUTE

The Public Health Research Institute invites applications for appointment as a member of its research faculty at either the junior or senior level. Candidates must have training and experience of the highest quality and an exciting research program addressing fundamental questions in retrovirology. The research program must be funded or, in the case of a junior applicant, eminently fundable.

The PHRI is an independent, not-for-profit research organization founded in 1942. Its current programs center on basic molecular biology and molecular genetics.

The PHRI offers an excellent research environment and laboratory facilities, start-up funds, and a generous benefits package. Salary is negotiable.

Candidates should submit curriculum vitae, a statement of research interests and accomplishments, and a list of at least three references. Review of applications will begin on 1 March 1989, but applications will be accepted until the position has been filled. Applications should be sent to: **Dr. Leonard Mindich, Chairman, Recruiting Committee, Public Health Research Institute, 455 First Avenue, New York, NY 10016.**

The PHRI is an Equal Opportunity Employer.

POSITIONS OPEN

THE UNIVERSITY OF CALGARY RESEARCH IN SIGNAL TRANSDUCTION

The University of Calgary Faculty of Medicine Cell Regulation Group invites applications for **FACULTY POSITIONS** at the assistant professor level or higher in the area of biochemical mechanisms in signal transduction.

Successful candidates will be expected to develop an independent research program in the general area of signal transduction processes, but priority will be given to applicants who propose to investigate guanine nucleotide binding proteins (G-proteins) and/or phosphoinositide turnover. Well-qualified candidates will be eligible to apply for salary and establishment support by competitive application to the Alberta Heritage Foundation for Medical Research. Establishment support will cover the cost of setting up a new laboratory with both major and minor equipment, and operating funds for an initial 2-year period.

Applicants require an M.D. and/or Ph.D. and research training at the postdoctoral level. Remuneration will be based on salary scales at The University of Calgary relative to training and experience. Successful applicants will have 75% of their time protected for research.

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. The University of Calgary is committed to employment equity.

Interested candidates should submit their curriculum vitae, names of three references, and a letter stating their aims and research interests by 1 March 1989 to: **Dr. David Severson, Chairman, Cell Regulation Research Group, Faculty of Medicine, The University of Calgary, 3330 Hospital Drive N.W., Calgary, Alberta T2N 4N1 Canada.**

RESEARCH SPECIALIST/TECHNICIAN

Full-time position available immediately for an individual with an M.S. or B.S. with 2 years of laboratory experience in the area of protoplast culture and/or molecular technique. Send résumé and the names and telephone numbers of three references to: **Mariam Sticklen, 126 Natural Resources, Michigan State University, East Lansing, MI 48824.**

School for Field Studies (SFS) seeks **SENIOR/AND ASSOCIATE FACULTY** for summer programs: Ethnobotany/Ecuador; Landscape Ecology/Colorado; Tropical Ecology/Costa Rica; Acid Rain/Adirondacks; Wildlife Management/Kenya; Cultural Ecology/Himalayas; Bald Eagles/Alaska; Coral Reef Ecology and Marine Parks Management/Virgin Islands; Monk Seals/Greece; Spinner Dolphins/Hawaii; Humpback Whale Ecology/North Atlantic; Bottlenose Dolphins/Alabama; Endangered Primates/Mexico. Ph.D. (M.S. for associate faculty), excellent teaching skills, experience in field research and experiential education. Send detailed letter, curriculum vitae, and references to: **The Dean, SFS, 16 Broadway, Beverly, MA 01915.** Telephone: 508-927-7777.

TECHNICAL COORDINATOR

Waste reduction experience in developing technical assistance program. Will write industrial case studies and articles for newsletter. Develop and coordinate seminars, conferences, and workshop representing Kentucky Partners as speaker. Bachelor's degree in chemistry or engineering required and 2 years of related experience that includes technical, communication and interpersonal skills. Salary commensurate with qualifications. Send curriculum vitae and names of three references by 24 February 1989 to: **Rae Shepherd, Personnel Services, 2211 South Brook Street, University of Louisville, Houchens Building, Louisville, KY 40292.** *Equal Opportunity/Affirmative Action Employer.*

Dickinson College has a **TENURE-TRACK POSITION** in biochemistry for fall 1989. Candidates should have the Ph.D. in biochemistry, commitment to undergraduate education, desire to develop a research program with undergraduates, and ability to oversee an expanding biochemistry program. Dickinson is a liberal arts college with ACS accreditation, six chemistry faculty, excellent instrumentation, and significant undergraduate research. Send a résumé, undergraduate and graduate transcripts, research plans, and have three letters of recommendation sent to: **Professor Robert Leyon, Department of Chemistry, Dickinson College, Carlisle, PA 17013** by 27 February 1989. *Minority and female applicants encouraged. Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

SALES/MARKETING POSITION. Small trading company in California seeks specially qualified individual for sales/marketing position in Soviet trade. Experience with medical/laboratory analytical equipment advantageous but not essential. We will train. Long-term commitment critical. Qualifications: bilingual English/Russian fluency. Undergraduate degree (at least) in a physical or biological science, eg: Physics, chemistry, biophysics, biochemistry, biology. U.S. passport. Willing to travel. Send résumé to: **P.O. Box 3715, Redwood City, CA 94064.**

NEW ZEALAND UNIVERSITY OF CANTERBURY SENIOR LECTURER OR LECTURER IN MOLECULAR BIOLOGY (DEPARTMENT OF PLANT AND MICROBIAL SCIENCES)

Applications are invited for a position, as above.

Applicants should have a Ph.D. degree in a relevant field and an interest in plant molecular biology and plant virology. The appointee will be expected to contribute to the teaching of courses in biochemistry, molecular biology, molecular genetics and virology and to pursue an active research program including the supervision of M.Sc. and Ph.D. students.

The salary for senior lecturers is on a scale from \$NZ49,000 to \$NZ57,000 per annum and a range from \$NZ59,000 to \$NZ63,000 per annum, and for lecturers is on a scale from \$NZ35,000 to \$NZ42,500 (bar), \$NZ44,000 to \$NZ46,000 per annum.

Applications close on 28 April 1989.

Further particulars and Conditions of Appointment, quoting Position No. PL1, may be obtained from the undersigned to whom applications must be addressed: **A. W. Hayward, Registrar, University of Canterbury, Private Bag, Christchurch, New Zealand.**

SOIL SCIENTIST/PLANT PHYSIOLOGIST.

Early job alert. The Pacific Northwest Research Station of the USDA Forest Service will advertise for a research soil scientist/plant physiologist at the Forestry Sciences Laboratory, Juneau, Alaska, by approximately 1 May 1989. The incumbent will conduct research on soil and vegetation processes controlling long-term site productivity in coastal Alaska using an ecosystems approach. The position may be filled with a permanent full-time or 2-year term appointment.

Applicant should hold or have substantially completed a Ph.D. in soils, plant physiology, or a related field. A strong background in soil biology/chemistry and/or plant physiology is required. Compensation for the position is anticipated to be at the GS-12 or -13 rate (\$33,218 to \$39,501 per year) and in addition will include the Alaska cost-of-living adjustment (25 percent of the base salary). Interested individuals should respond in writing before 15 March 1989, to: **Wilbur A. Farr, USDA Forestry Sciences Laboratory, P.O. Box 020909, Juneau, AK 99802.** Please include information about your background and credentials.

This is an early alert notice. Formal application will be solicited when the vacancy announcement is issued. All persons responding to this early alert will be notified when the announcement is issued. Women and minorities are especially encouraged to respond.

VISION RESEARCH

Search reopened. A joint appointment with the Department of Ophthalmology and R. S. Dow Neurological Sciences Institute of Good Samaritan Hospital and Medical Center is available for a **SCIENTIST**, with research interests in the cell biology, molecular biology, biochemistry, or immunology of the cornea. Vision scientists who are experienced in cell culture, growth factors, receptors or regulation of gene expression, and who would be willing to apply their skills to problems in the cornea, are also encouraged to apply. The successful candidate will be expected to establish a laboratory conducting independent basic research that complements current departmental clinical research interests in cornea. Postdoctoral research experience required. Level of appointment will depend upon research accomplishments. Send curriculum vitae with names of three references by 31 March 1989 to: **M. W. Kaplan, Ph.D., Chairman, Vision Scientist Search Committee, R. S. Dow Neurological Sciences Institute, Good Samaritan Hospital and Medical Center, 1120 NW 20th Avenue, Portland, OR 97209-1595.**

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POSITIONS OPEN

VERTEBRATE BIOLOGIST

The College of Arts and Sciences of Widener University invites applications for a tenure-track position as assistant professor of biology, beginning 1 September 1989. Ph.D. is required. Undergraduate education is the primary emphasis of the position. Teaching responsibility will include comparative anatomy, embryology, and participation in introductory human anatomy and physiology. Application deadline is 3 March 1989. Letters of application, complete curriculum vitae, and three letters of recommendation should be sent to: **Robert Morris, Biology Department, Widener University, Chester, PA 19013.**

WILDLIFE EXTENSION. Wildlife Extension Specialist and Research Position at Oregon State University (OSU). Establish extension programs on the wildlife resources of Oregon; communicate research findings and current knowledge to the public; and conduct workshops for extension agents and conservation organizations. Establish research program in an area of specialization; supervise graduate students; and write research proposals. Position funded at .75 FTE expandable to 1.0 FTE with tenure. Filing deadline 28 February 1989; position available 1 July 1989. Send cover letter, résumé, and five letters of reference from respondent to: **Dr. Howard Horton, Department of Fisheries and Wildlife, OSU, Corvallis, OR 97331.** Call: 503-754-228 for information.

ASSISTANTSHIPS

GRADUATE RESEARCH IN MOLECULAR GENETICS, BIOANALYTICAL CHEMISTRY, TOXICOLOGICAL AND NUTRITIONAL BIOCHEMISTRY at Oregon State University. Research assistantships (\$10,000 per year plus tuition) in an interactive, interdisciplinary department with state-of-the-art facilities are available for exceptional Ph.D. students; research rotations are encouraged. Send inquiries to: Academic Programs Committee, Department of Agricultural Chemistry, Oregon State University, Corvallis, OR 97331. An Affirmative Action/Equal Opportunity Employer.

SYMPOSIUM

Announcing an International Symposium
Sponsored by the

U.S. Environmental Protection Agency
**GENETIC TOXICOLOGY OF
COMPLEX MIXTURES**

4-7 July 1989

L'Enfant Plaza Hotel, Washington, DC

Sessions include: Development and application of new methodologies applicable to research on complex environmental mixtures, complex mixtures of genotoxins in air and in water, exposures/effects assessment. Speakers include: **Hidetsuru Matsushita** (Japan), **Goran Lofroth** (Sweden), **Gernot Grimmer** (West Germany), **Marja Sorsa** and **Kari Hemminki** (Finland), **P. H. M. Lohman** and **Martin van der Gaag** (The Netherlands), **John Fawell** (United Kingdom), **Frederica Perera** and **Steven Tannenbaum** (USA), **Werner Lutz** (Switzerland), and others.

Activities available: Fourth of July fireworks buffet cruise on the Potomac River, Americana bus tour of the Pennsylvania Amish Country and historical Baltimore and Philadelphia, conference banquet, proceedings volume, and poster sessions. Custom registration packages range in cost from \$60 to \$295 depending upon activities selected. 1 May 1989 deadline.

Registration information: **Claire Wilson and Associates, P.O. Box 4899, Washington, DC 20008;** Telephone: 202-332-9021.

COURSE

MARICULTURE: CULTURE OF MARINE INVERTEBRATES FOR RESEARCH PURPOSES. Designed to teach the basics of mariculture to advanced students, this course is scheduled for 21-27 May 1989. Tuition: \$850 (includes room and board). Application deadline is 1 April 1989. For further information, contact: **Admissions Coordinator, Marine Biological Laboratory, Woods Hole, MA 02543.** Telephone: 508-548-3705, extension 216.

Computational Chemist

Computer-Assisted Drug Design

Parke-Davis Pharmaceutical Research Division, Warner-Lambert Company, has an immediate opening for a Computational Chemist to join our Computer-Assisted Drug Design (CADD) Group.

The successful candidate will join an experienced team of dedicated scientists, working with state-of-the-art hardware and software, who believe successful drug discovery depends on CADD.

The position involves extensive opportunities for collaboration with scientists at Parke-Davis and elsewhere, including specialists in NMR spectroscopy and x-ray crystallography. Additionally, while conducting molecular modeling approaches to support drug design projects, the candidate will be expected to help identify software needs and to develop and support new software tools targeted to meet these needs.

The qualified candidate will be a talented Ph.D.-level scientist who has experience with modern computational and graphics techniques, particularly as applied to peptides, peptidomimetics and proteins. Applications expertise in molecular modeling, mechanics and dynamics is required. Strong interpersonal skills essential.

A solid background in physical organic chemistry, particularly molecular orbital theory, or QSAR, would be a plus. Programming experience and a knowledge of Fortran and C, mostly in conjunction with VAX-VMS and UNIX-based environments, is desirable.

We offer excellent compensation and benefits at our modern facilities adjacent to The University of Michigan campus. Interested candidates should send curriculum vitae and salary requirements in confidence to: **Mr. T. Romps, Human Resources Representative, PARKE-DAVIS, 2800 Plymouth Road, Ann Arbor, Michigan 48105.**

PARKE-DAVIS

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"Equal Opportunity in Action"

TOXICOLOGIST

Pitman-Moore is a leading producer and supplier of products for animal health, growth and nutrition.

We are presently seeking an experienced **Toxicologist** to work in our Research & Development Laboratories in Terre Haute, Indiana. The successful candidate will have a Ph.D. in Toxicology, Biology, Pharmacology or a related field and at least two years of experience working in support of NADA or NDA filings. A strong knowledge of statistics is desirable. Board certification in Toxicology/Veterinary Toxicology strongly preferred.

This individual will be responsible for planning and implementing toxicity studies, interpreting results, and writing final reports. In addition, this person will handle Environmental Toxicology, supervise inhouse and contract studies and prepare documents for submission to the FDA as needed. Strong writing and oral presentation skills are essential for this position.

If you have demonstrated expertise in Regulatory Toxicology and would like to become a part of an expanding research & development effort with a growth oriented company, Pitman-Moore can offer you a competitive salary, excellent benefits and a dynamic work environment. We invite you to reply in confidence to: **Mr. M. G. Ray, Pitman-Moore, Inc., P.O. Box 207, Department A-6, Terre Haute, Indiana 47808.** All applicants must be prepared to document authorization to work in the U.S. Pitman-Moore is an Equal Opportunity/Affirmative Action Employer.



COURSE

MICROINJECTION TECHNIQUES IN CELL BIOLOGY, 21 to 26 May 1989. Director: **Robert Silver**, Cornell University. In this 5-day course students will learn to microinject single cells and use many of the latest methods of light microscopy. Application deadline is 1 April 1989. Tuition: \$1550 (includes materials, room/board). For further information contact: **Admissions Coordinator, Marine Biological Laboratory, Woods Hole, MA 02543**. Telephone: 508-548-3705, extension 216.

PROGRAM

DOCTORAL PROGRAM IN MOLECULAR AND CELLULAR BIOLOGY AND PATHOBIOLOGY. Interdisciplinary program seeks qualified candidates interested in fundamental molecular and cellular biology and its application to disease. Stipends of \$9000 available on a competitive basis. Contact: **Director, MCBP Program, College of Graduate Studies, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425**.

Medical University of South Carolina offers **PROGRAMS** leading to Ph.D. and M.D./Ph.D. degrees in each of the basic biomedical sciences (anatomy, biochemistry, biometry, microbiology and immunology, pathology, pharmacology, and physiology), pharmaceutical sciences, and molecular and cellular biology/medicine. \$9000 assistantships available to highly qualified students. Contact: **College of Graduate Studies, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425**.

TRAINING PROGRAM

PRE- AND POSTDOCTORAL POSITIONS IN CELLULAR AND MOLECULAR ASPECTS OF ENVIRONMENTAL PATHOLOGY

Environmental Pathology Training at the University of Vermont is a NIH-funded, multi-departmental program focused on the molecular biology, biochemistry and cell biology of environmental pathology; Pre- and postdoctoral positions are available. Besides a basic research experience, trainees have educational opportunities through coursework and a seminar series. Faculty include **R. J. Albertini**, environmental T-cell mutagenesis; **J. F. Chiu**, chemical hepatocarcinogenesis; **J. E. Craighead**, viral-induced diabetes; asbestos-induced mesothelioma; **K. R. Cutroneo**, mechanisms of toxin-induced pulmonary fibrosis; **J. N. Evans**, pulmonary remodelling processes; **N. H. Heintz**, initiation of replication; **R. B. Low**, pulmonary repair mechanisms; **B. T. Mossman**, chemical and physical carcinogenesis; asbestos; **W. W. Pendlebury**, aluminum-induced encephalopathies; **S. H. Robison**, DNA repair in response to ionizing radiation, alkylating agents or metal compounds; **W. I. Schaeffer**, cell biology of tumorigenesis; **T. R. Tritton**, the role of the plasma membrane in cell injury and death; **B. Van Houten**, DNA repair mechanisms. Postdoctoral candidates should have a Ph.D., M.D. or D.V.M. degree and a desire to develop a career integrating molecular studies with the increasing challenge the environment places on living systems. The University invites and encourages applications from women and members of minority groups. Send curriculum vitae and list of references to: **Russell P. Tracy, Ph.D., Department of Pathology, Health Science Complex, University of Vermont, Burlington, VT 05405**. UVM is an Affirmative Action/Equal Opportunity Employer.

FELLOWSHIPS

CENTER FOR NEUROSCIENCE UNIVERSITY OF PITTSBURGH (CNUP) CLINICAL NEUROSCIENCE RESEARCH POSTDOCTORAL FELLOWSHIPS

Two- to 3-year fellowships for M.D./Ph.D.'s interested in acquiring basic laboratory skills to investigate neural diseases. Fellowship should begin upon completion of residency. Fellows will work with both basic science and clinical mentors. \$35,000 per year plus benefits. Write: **CNUP CNR Program, 337E Scaife Hall, University of Pittsburgh, Pittsburgh, PA 15261** for detailed information and application.

TRAINEESHIPS

TRAINEESHIPS: Medical Scientist Training Program offers \$9000 stipends for studies leading to combined M.D./Ph.D. degrees in each of the basic biomedical sciences and molecular and cellular biology/medicine. Contact: **Director, Medical Scientist Training Program, College of Graduate Studies, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425**.

FELLOWSHIPS

UNIVERSITY OF CALIFORNIA SAN FRANCISCO POSTDOCTORAL FELLOWSHIPS IN BASIC MECHANISMS OF ENVIRONMENTAL MUTAGENESIS AND CARCINOGENESIS

Fellowships are available for research on the molecular, cellular, genetic, and developmental aspects of mammalian cells. The faculty include: **Michael J. Banda** (wound repair, proteinases and proteinase inhibitors), **James E. Cleaver** (DNA repair genes), **William F. Morgan** (chromosome damage and repair, SCEs), **John P. Murnane** (DNA recombination), **Robert B. Painter** (DNA replication and repair), **Roger A. Pedersen** (early mammalian development, cell lineage, transgenic mice and homologous recombination), **Matthias R. Wabl** (molecular immunology), **Zena Werb** (macrophage phenotyping, metalloproteinase, growth factor, and extracellular matrix genes in development, homologous recombination), and **Sheldon Wolff** (radiation genetics, cytogenetics).

Stipends are funded through a National Research Service training program. Appointments can begin 1 July 1989. The requirements are U.S. citizenship or permanent residency and a Ph.D. degree or equivalent. Send résumé, graduate transcript, statement of research interests, and three letters of recommendation by 15 March 1989 to: **Dr. Zena Werb, Program Director, Laboratory of Radiobiology and Environmental Health, University of California, San Francisco, CA 94143-0750**. An Equal Opportunity/Affirmative Action Employer.

SMITHSONIAN POSTDOCTORAL FELLOWSHIPS IN MOLECULAR EVOLUTION AND PLANT PHYSIOLOGY

Postdoctoral fellowships in molecular evolution and plant physiology are available for research to be conducted at two or more of the following Smithsonian Institution bureaus: National Museum of Natural History (Washington, D.C.); National Zoological Park (Washington, D.C.); Smithsonian Tropical Research Institute (Panama); and Smithsonian Environmental Research Center (Maryland). Stipends are \$24,000 annually, including travel. Tenures are from 12 to 24 months. Deadline: 1 May 1989. Notification: 1 August 1989. For further information and application forms write: **Office of Fellowships and Grants, Desk M, Suite 7300, 955 L'Enfant Plaza, Smithsonian Institution, Washington, DC 20560**.

MARKETPLACE

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POSTDOCTORAL FELLOWSHIPS—M.D. or Ph.D. in AIDS-related research and developmental psychobiology. Faculty: **B. Camp, L. Crnic, R. Emde, R. Freedman, M. Haith, R. Harmon, M. Laudenslager, D. Mrazek, B. Pennington, M. Reite, A. Vernadakis**. Application deadline 1 March 1989. Send curriculum vitae and three letters of reference to: **Program Director, UCHSC, Box C268R, 4200 East 9th Avenue, Denver, CO 80262**; telephone: 303-270-7212. Minorities and women encouraged to apply. Affirmative Action/Equal Opportunity Employer.

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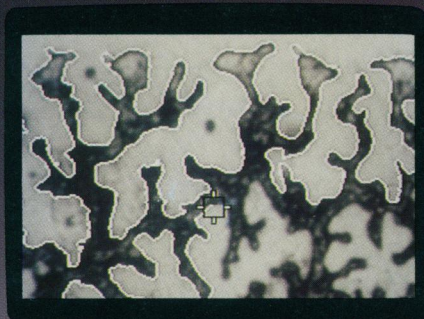
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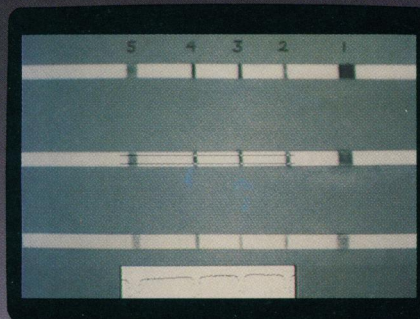
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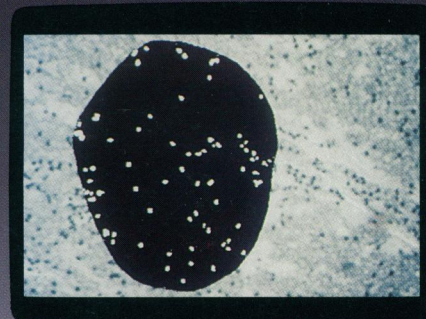
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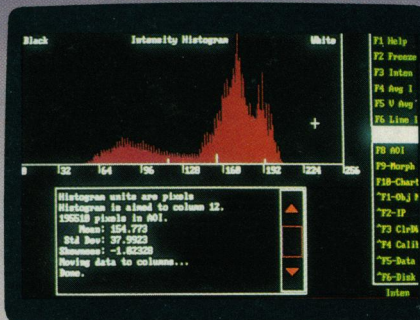
Density along a strip



Automatic object counting

Insert					Etc. Chart				
1	6.9590E	4.4752B	4.11594	3.55945	F1 Help	F2 Show Data	F3 Aim Data	F4 Calc	
2	6.9590E	4.40335	4.04047	3.55945	F5 Calc	F6 Calc	F7 Calc	F8 Calc	
3	6.98812	4.43542	4.07388	3.55945	F9 Calc Title	F10 Calc	F11 Calc	F12 Calc	
4	7.88181	4.41549	4.05211	3.55945	F13 State	F14 State	F15 State	F16 State	
5	7.88181	4.39256	4.03194	3.55945	F17 Calc	F18 Calc	F19 Calc	F20 Calc	
6	7.88181	4.37563	4.00997	3.55945	F21 Calc	F22 Calc	F23 Calc	F24 Calc	
7	7.82287	4.35278	3.98898	3.55945	F25 Calc	F26 Calc	F27 Calc	F28 Calc	
8	7.82287	4.32777	3.96721	3.55945	F29 Calc	F30 Calc	F31 Calc	F32 Calc	
9	7.82287	4.31583	3.94614	3.55945	F33 Calc	F34 Calc	F35 Calc	F36 Calc	
10	7.84394	4.29598	3.92587	3.55945	F37 Calc	F38 Calc	F39 Calc	F40 Calc	
11	7.84394	4.27597	3.90488	3.55945	F41 Calc	F42 Calc	F43 Calc	F44 Calc	
12	7.84394	4.25694	3.88294	3.55945	F45 Calc	F46 Calc	F47 Calc	F48 Calc	
13	7.84394	4.23611	3.86125	3.55945	F49 Calc	F50 Calc	F51 Calc	F52 Calc	
14	7.86581	4.21518	3.84018	3.55945	F53 Calc	F54 Calc	F55 Calc	F56 Calc	
15	7.86581	4.19625	3.81911	3.55945	F57 Calc	F58 Calc	F59 Calc	F60 Calc	
X	Y	Distance	Area	Angle					
cm	cm	um/d	um/d	degrees					

16k x 64k data worksheet



Intensity histogram

Insert					Etc. Chart				
	1	2	3	4	F1 Help	F2 Freeze	F3 Inten	F4 Avg 1	
1	6.9590E	4.4752B	4.11594	3.55945	F5 V Avg 1	F6 Line 1	F7 ROI	F8 ROI	
2	6.9590E	4.4752B	4.11594	3.55945	F9 Morph	F10-Chart	F11-Chart	F12-IP	
3	6.98812	4.43542	4.07388	3.55945	F13-IP	F14 Call	F15-Beta	F16-Dist	
4	7.88181	4.41549	4.05211	3.55945	F17-Test	F18-Reg	F19-Reg	F20-Reg	
5	7.88181	4.39256	4.03194	3.55945	F21-Reg	F22-Reg	F23-Reg	F24-Reg	
6	7.88181	4.37563	4.00997	3.55945	F25-Reg	F26-Reg	F27-Reg	F28-Reg	
7	7.88181	4.35278	3.98898	3.55945	F29-Reg	F30-Reg	F31-Reg	F32-Reg	
8	7.88181	4.33072	3.96721	3.55945	F33-Reg	F34-Reg	F35-Reg	F36-Reg	
9	7.88181	4.31583	3.94614	3.55945	F37-Reg	F38-Reg	F39-Reg	F40-Reg	
10	7.84394	4.29298	3.92587	3.55945	F41-Reg	F42-Reg	F43-Reg	F44-Reg	
11	7.84394	4.27092	3.90488	3.55945	F45-Reg	F46-Reg	F47-Reg	F48-Reg	
12	7.84394	4.25484	3.88294	3.55945	F49-Reg	F50-Reg	F51-Reg	F52-Reg	
13	7.84394	4.23611	3.86125	3.55945	F53-Reg	F54-Reg	F55-Reg	F56-Reg	
14	7.86581	4.21418	3.84018	3.55945	F57-Reg	F58-Reg	F59-Reg	F60-Reg	
15	7.86581	4.19625	3.81911	3.55945					
X	Y	Distance	Area	Angle					
cm	cm	um/d	um/d	degrees					

Currently defined transform ones

(1,22) area (18)

(2,22) area (C)

(3,22)(2,22)-(1,22) 1/2 (C,22)

C=0.394

C=0.394

C14=area(S)

(1,15) area (16)

(2,15) area (18)

67=0.4178.5

C28=1/2 ((C255)/C32)+C2

C75 to apply highlighted transform

User defined transformations

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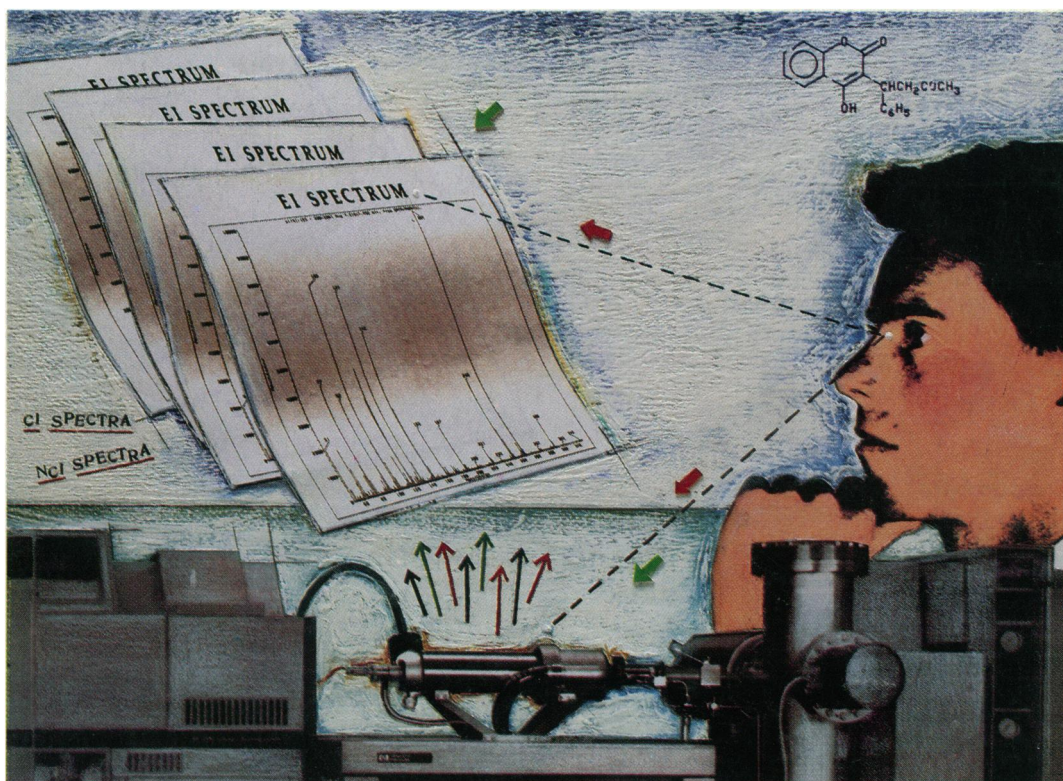
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