

son in a very readable treatise has focused primarily on the evolutionary history and natural life cycle of the gorilla, drawing to some extent on his own field experience but providing little new information from captive studies. Maple and Hoff, in textbook format, have successfully attempted a comprehensive treatment of the behavioral biology of the gorilla (field and captive studies, including learning and language capabilities). They compare the gorilla data when possible with those for the other great apes, whose existence in the wild is also seriously threatened (*Pan*, the chimpanzee, endemic to Africa as well, with some overlapping range with lowland gorillas; *Pongo*, the arboreal orangutan of Asia, now found only on the islands of Borneo and Sumatra). Both volumes suffer from giving indiscriminant status to qualitative and quantitative information, a problem arising from the insufficiency of focused and detailed research. There is a paucity of field observations on the eastern and western lowland gorillas for comparison with the data available on the mountain gorilla. Also, as Maple and Hoff indicate, captive studies of birth, parental behavior, and the expression of emotions of gorillas would be particularly fruitful.

Upon completion of either book one obtains a sense of wonderment at the gorilla for the kind of primate it is and for its biological and social similarities to humans. Its herbivorous diet and the ritualization of its threat displays dispel an unearned reputation for aggressiveness. Its family groups usually consist of at least one adult male (≥ 12 years of age, with a back saddle of silver hair), two or more adult females (≥ 10 years of age), and several young and juveniles. If one considers merely the social structure of the gorilla—revolving as it does around the competence, patience, and protection of the dominant male, mother-young interactions of care, play, and imitation during an infancy period of 3 to 5 years, dispersal of older juveniles of both sexes (female emigration from the natal group is rare for primates), and mainly affiliative behaviors of contact and reassurance at all ages—the probability of the extinction of the gorilla, or of its continued existence solely in captive environments, makes one truly sorrowful. Conservation is appropriately the subject of the concluding chapters of both books.

JOAN S. LOCKARD

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- Advances in Nephrourology.** Proceedings of a course, Erice, Italy, May 1980. Michele Pavone-Macaluso and Philip H. Smith, Eds. Plenum, New York, 1981, x, 482 pp., illus. \$57.50. Ettore Majorana International Science Series, vol. 9.
- Advances in Peritoneal Dialysis.** Proceedings of a symposium, Berlin, June 1981. G. M. Gahl, M. Kessel, and K. D. Nolph, Eds. Excerpta Medica, Amsterdam, 1981 (U.S. distributor, Elsevier North-Holland, New York). xx, 508 pp., illus. \$83.75. International Congress Series 567.
- Advances in Quantum Chemistry.** Per-Olov Löwdin, Ed. Academic Press, New York, 1981. Vol. 13. xii, 252 pp., illus. \$42. Vol. 14. xii, 248 pp., illus. \$46.50.
- Altruism and Helping Behavior.** Social, Personality, and Developmental Perspectives. J. Philippe Rushton and Richard M. Sorrentino, Eds. Erlbaum, Hillsdale, N.J., 1981. xviii, 456 pp. \$36.
- Anelasticity in the Earth.** F. D. Stacey, M. S. Paterson, and A. Nicholas, Eds. American Geophysical Union, Washington, D.C., and Geological Society of America, Boulder, Colo., 1981. vi, 122 pp., illus. \$15. Geodynamics Series.
- Applied Functional Analysis.** D. H. Griffel. Horwood, Chichester, England, and Halsted (Wiley), New York, 1981. 386 pp. \$79.95. Ellis Horwood Series in Mathematics and Its Applications.
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- The Archaeology of Beringia.** Frederick Hadleigh West. Columbia University Press, New York, 1981. xviii, 268 pp., illus. \$30.
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- Atlas of Rumen Microbiology.** Keiji Ogimoto and Soichi Imai. Japan Scientific Societies Press, Tokyo, 1981 (U.S. distributor, ISBS, Beaverton, Ore.). viii, 232 pp., illus. \$32.
- Attention and Performance IX.** Papers from a symposium. Cambridge, England, July 1980. John Long and Alan Baddeley, Eds. Erlbaum, Hillsdale, N.J., 1981. xxviii, 644 pp., illus. \$49.95.
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- Les Autres.** Expressions Artistiques chez les Handicapés Mentaux. Luc Boulange and Jean-Luc Lambert. Mardaga, Brussels, 1981. 142 pp., illus. 990 BF.
- Basic Quantum Mechanics.** J. L. Martin. Clarendon (Oxford University Press), New York, 1981. x, 242 pp., illus. Cloth, \$39.50; paper, \$17.95. Oxford Physics Series, 18.
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- Biological/Biomedical Applications of Liquid Chromatography III.** Papers from a symposium. Boston, Oct. 1979. Gerald L. Hawk, Paul B. Champlin, Robert F. Hutton, and Chris Mol, Eds. Dekker, New York, 1981. xvi, 420 pp., illus. \$49.75. Chromatographic Science, vol. 18.
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(Continued on page 208)



PRODUCTS and MATERIALS

Handheld Microscope

This instrument with roof prism optics magnifies objects 25 times. Field of view is 10 millimeters and a measuring reticule is built in. It is compact enough to carry in a pocket although it comes with a case. Focusing is easily accomplished and daylight or ambient room light provides ample illumination. RF Inter-Science. Circle 555.

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The Centidisc is a low-speed, shaftless, magnetically driven centrifuge. It may be driven by any magnetic laboratory stirrer that can achieve 1200 revolutions per minute. Up to 16 disposable microcentrifuge tubes may be spun at a time. Tubes of 250 or 400 microliters may be used. The Centidisc may be washed or autoclaved. Bel-Art Products. Circle 556.

Spectrofluorometer

Model SF-750 is designated the universal spectrofluorometer. It will analyze fluorescence in clinical chemistry applications, in high-pressure liquid chromatograms, and in scanning thin-layer plates or gels. Operator may select xenon flash high-energy, standard xenon, or deuterium illumination. There is a photomultiplier tube detector and a photon-counting option in addition to an intensified silicon photodiode array. Discrete wavelength stepping drives enable the user to be quite specific in choice of wavelength for a given analysis. The device accepts samples from HPLC,

standard and microcolumns, or in 10 by 10 millimeter cuvettes or ultraviolet test tubes. Even thin-layer plates and electrophoresis gels may be scanned. Excitation and emission spectra are easily corrected by microcomputer. Schoeffel/McPherson. Circle 557.

Sensors for Color Computers

Inexpensive light and temperature sensors are available to equip the Radio Shack TRS-80 color computer to record and interpret laboratory data. More than 80 matching scientific and educational programs are available to implement the use of these sensors. Moses Engineering. Circle 558.

Computer Program for Analytical Chemistry

GSAM allows solution of multianalyte concentration problems in the presence of interference or matrix effects caused by cloudy solutions, changes in ionic strength, and sample spectroscopic cell differences. The program works when calibration curves and standard spectra cannot be used. GSAM accepts data from many types of experiments and sensor arrays. The program calculates the original concentration of each analyte. Infometrix. Circle 559.

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pendent operation (two separate liquid chromatography systems operate simultaneously). Features include a potential scan mode for use in developing methods and a thermostatically controlled cell heater. An optional guard cell eliminates background interference caused by mobile phase impurities. Environmental Sciences Associates. Circle 560.

Computer Graphics Software

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Literature

Immunological and Biological Reagents is a directory to more than 200 sources for more than 12,000 chemicals for scientific research. Linscott's Directory. Circle 562.

Toxicity Prediction System describes a means of ranking chemicals for probability of teratogenicity, carcinogenicity, biodegradability, and other characteristics. Health Designs. Circle 563.

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Instrumentation for Biotechnology includes centrifuges, protein/peptide sequencers, amino acid analyzers, liquid scintillation counters, HPLC, ultraviolet and infrared spectrophotometers, gel scanners, gamma counters, and pH meters. Beckman Instruments. Circle 565.

Input/Output Systems covers analog and digital data acquisition for microcomputers. Data Translation. Circle 566.

HPLC Systems and Accessories features isocratic and gradient methods and equipment. Gilson Medical Electronics. Circle 567.

Infrared Spectroscopy offers transmission, sampling, reflection, pyrolysis, and crystal apparatus. Analabs, Foxboro Analytical. Circle 568.

Stable Isotopes for Biochemistry catalogs a selection of compounds listed in four sections: oxygen-18, carbon-13, uses of structural probes, and labeled purines and pyrimidines. Kor Isotopes. Circle 569.

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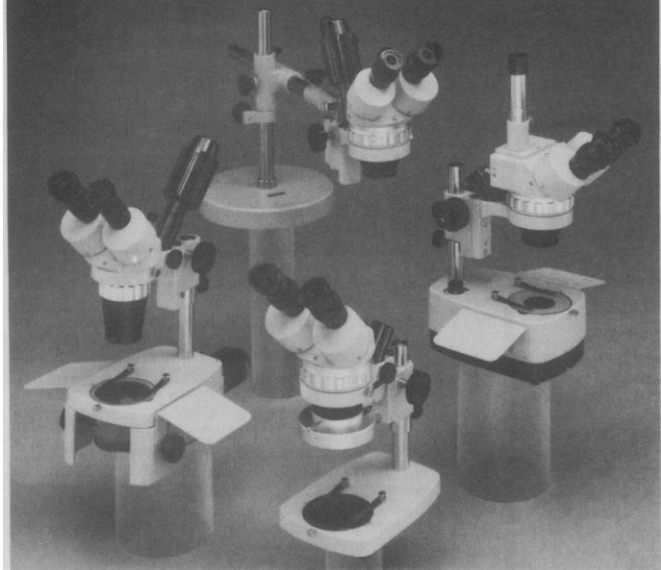
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BOOKS RECEIVED

(Continued from page 172)

Energy, Economics, and the Environment. Conflicting Views of an Essential Interrelationship. Papers from a symposium, San Francisco, Jan. 1980. Herman E. Daly and Alvaro F. Umana, Eds. Published for the American Association for the Advancement of Science by Westview, Boulder, Colo., 1982. xii, 200 pp., illus. \$22. AAAS Selected Symposia Series, 64.

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Epilepsy. A Clinical and Experimental Research. Proceedings of a conference, Warsaw, Oct. 1978. Jerzy Majkowski, Ed. Karger, Basel, 1980. xvi, 306 pp., illus. Paper, \$56.50. Monographs in Neural Sciences, vol. 5.

The Essentials of Echocardiography I. J.-L. Laur-

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A European Experiment. The Launching of the JET Project. Denis Willson. Hilger, Bristol, 1981 (U.S. distributor, Heyden, Philadelphia). xiv, 182 pp., illus. \$26.

Fisheries Oceanography and Ecology. Taivo Laevastu and Murray L. Hayes. Fishing News Books, Farnham, Surrey, England, 1981. xiv, 202 pp., illus. £19.50.

Five Kingdoms. An Illustrated Guide to the Phyla of Life on Earth. Lynn Margulis and Karlene V. Schwartz. Freeman, San Francisco, 1981. xiv, 338 pp. \$24.95.

Fourth International Conference on Collective Phenomena. Moscow, Apr. 1981. Joel L. Lebowitz, Ed.

New York Academy of Sciences, New York, 1981. x, 234 pp., illus. Cloth or paper, \$50. Annals of the New York Academy of Sciences, vol. 373.

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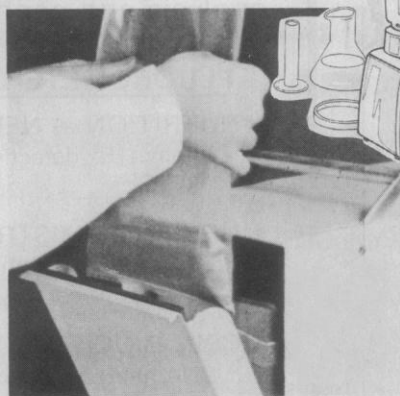
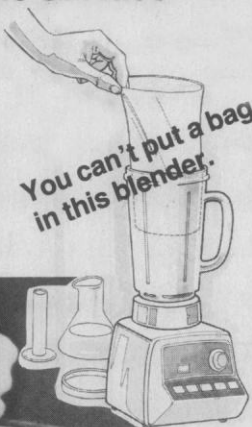
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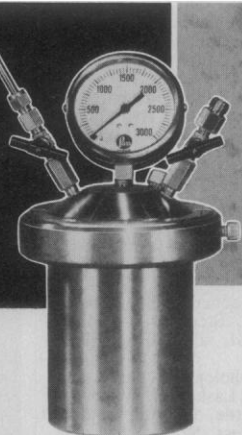
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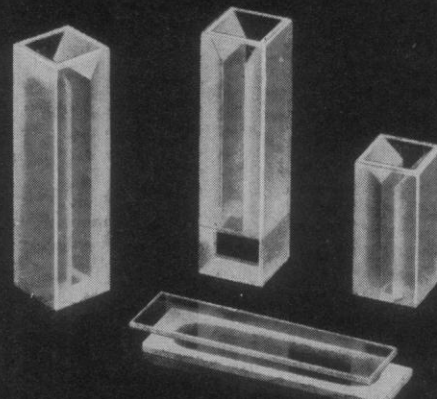
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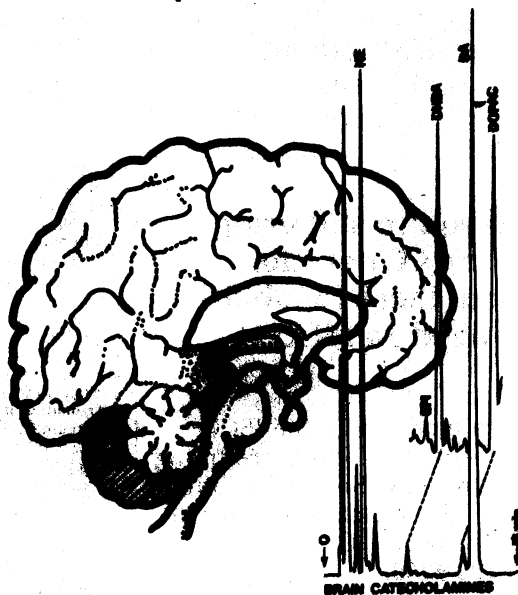
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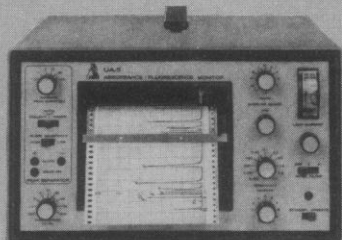


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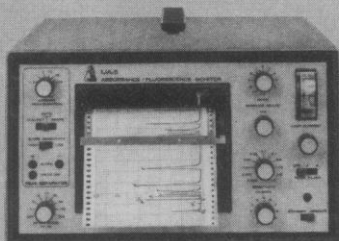


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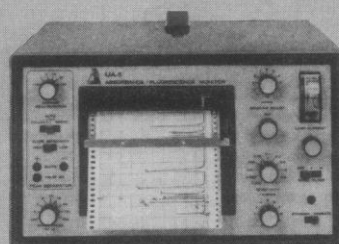
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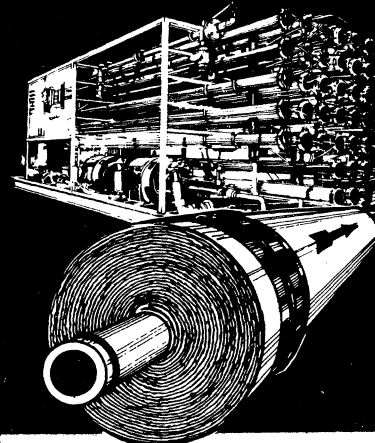
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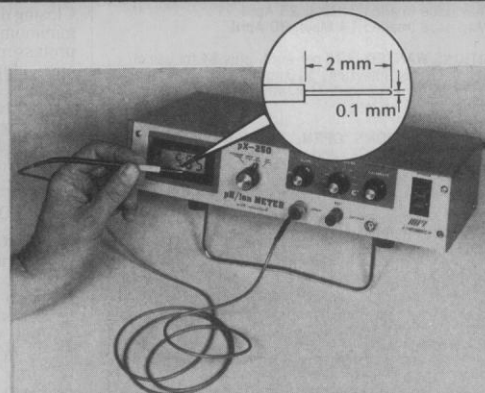
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The Upjohn Company offers excellent salary, benefits, and work atmosphere. Please send your c.v. in confidence to:

Gerald L. Potratz, Department 14096

THE UPJOHN COMPANY

7000 Portage Road • Kalamazoo, MI 49001

Equal Opportunity Employer M/F

Upjohn

RESEARCH MANAGER - MOLECULAR BIOLOGY

The Upjohn Company, a leader in pharmaceutical research and development of new therapeutic agents, is extending its biotechnology research effort and is seeking a Research Manager for its enlarging Molecular Biology Research Unit. This essentially basic research unit will study and develop recombinant DNA applications to all areas of Upjohn therapeutics research.

Applicants must have a Ph.D. or M.D. with research concentration in molecular biology, genetics and biochemistry, have a substantial publication record, and be a recognized contributor in the field. The successful candidate should have administrative and supervisory experience and demonstrated ability to guide and maintain an active, large, and expanding laboratory program.

The Upjohn Company offers excellent salary, benefits, work atmosphere, and relocation assistance. Kalamazoo, a mid-sized community, provides an outstanding cultural, educational, and recreational environment. Please send your curriculum vitae in confidence to:

Gerald L. Potratz, Department 32353

THE UPJOHN COMPANY

7000 Portage Road • Kalamazoo, MI 49001

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CAROLINA WORKSHOPS

at The University of North Carolina at Chapel Hill

Two Laboratory Courses

DNA SEQUENCING/GENERAL DNA TECHNOLOGY

July 12-30, 1982

Tuition \$900

Wayne Barnes	Washington University
Marshall Hall Edgell	University of North Carolina
Jack Griffith	University of North Carolina
Patricia Maness	University of North Carolina
Pieter Wensink	Brandeis University

with guest lecturers:

Clyde A. Hutchison, III, Richard Losick, Jonathan Seidman

DNA OLIGONUCLEOTIDE SYNTHESIS

August 2-6, 1982

Tuition \$500

Howard Coyer	P-L Biochemicals, Inc.
Darryl Stafford	University of North Carolina

Detailed information may be obtained from:

John Newbold, *Workshop Coordinator*
Program in Molecular Biology and Biotechnology
The University of North Carolina at Chapel Hill
125 MacNider Building 202H
Chapel Hill, North Carolina 27514

Telephone: 919 966-4161

Application deadline: May 14, 1982

Biotechnology

Unigene Laboratories, an established, diversified biotechnology corporation principally involved in medical research, is expanding its scientific staff in preparation for relocating to a brand new facility in Fairfield, NJ, within 25 miles of New York City. We invite applications from scientists at all levels of training, with extensive experience in the following fields:

Prokaryotic/Eukaryotic Recombinant DNA
Immunology (Hybridoma & Tissue Culture)
Protein Chemistry

Unigene Laboratories is a financially independent, academically committed corporation directed by scientists. We have established a creative, interactive environment in an institution which is exclusively devoted to the performance of in-house and contract supported research. In addition to an excellent benefit and compensation program, qualified scientists will receive equity positions. Please send C.V. to Dr. Levy, Unigene Laboratories, Inc., 2495 Amsterdam Avenue, Room 1413, New York, NY 10033.

All applications will be handled in strictest confidence.

UNIGENE

An equal opportunity employer

POSITIONS OPEN

The CARDIOLOGY DIVISION at the University of Texas Health Science Center wishes to recruit an M.D. or Ph.D. well trained in cardiac biochemistry and preferably with an interest and expertise in the characterization of adrenergic receptors. Interested persons should send their curriculum vitae and letter of inquiry to: James T. Willerson, M.D., Room L5.134, University of Texas Health Science Center, 5323 Harry Hines Boulevard, Dallas, Texas 75235. Equal Opportunity/Affirmative Action Employer.

CELL PHYSIOLOGIST/DEVELOPMENTAL BIOLOGIST AND VIROLOGIST (temporary). Applications are solicited for two possible vacancies beginning September 1982. Ph.D., demonstrated teaching ability, and potential to develop an excellent research program, secure grants, and recruit graduate students are primary qualifications. Send application letter, curriculum vitae, and four letters of recommendation to: Dr. K. W. Stewart, Chairman, Department of Biological Sciences, North Texas State University, Denton, Texas 76203. Application closing date: 30 April 1982. North Texas State University is an Equal Opportunity/Affirmative Action Employer.

DEVELOPMENTAL BIOLOGY FACULTY POSITION

Applications are invited for a tenure-track position in a well-equipped, research-oriented department. We seek an individual who will establish a vigorous, independent research program in an area of developmental biology and participate in our undergraduate and graduate teaching program. Applicants should submit curriculum vitae, relevant reprints, and a brief statement of proposed research and should arrange to have at least three letters of recommendation sent to:

Dr. V. Hari
Department of Biological Sciences
Wayne State University
Detroit, Mich. 48202

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

DIRECTOR, New Jersey Marine Advisory Service. Grant-funded position of the N.J. Marine Sciences Consortium and the N.J. Cooperative Extension Service, Cook College. Responsibilities include overall managerial and budget direction for a marine educational program; conduct of a specific marine program in a relevant marine subject matter area.

Master's degree in management or marine science-related field required. Doctorate preferred. Three to 5 years of experience in marine advisory or Extension programs required. Send résumé prior to 23 April 1982 to:

Anne L. Sheelen
Assistant Director of Extension
Cooperative Extension Service
P.O. Box 231
New Brunswick, N.J. 08903

The Cooperative Extension Service, Cook College, Rutgers University, is an Equal Opportunity Employer.

THE UNIVERSITY OF CHICAGO A FACULTY POSITION FOR AN IMMUNOLOGIST OR A SCIENTIST IN A COMPLEMENTARY DISCIPLINE

We seek a faculty colleague who, with his/her graduate students, would enjoy and benefit from working in immediate proximity to five immunologists and their graduate students. The La Rabida Institute is located in Jackson Park on Lake Michigan, 2 miles from the University of Chicago Campus. Primary appointment will be in an appropriate University of Chicago department such as Pathology, Microbiology, Biochemistry, Pediatrics, or other. Collectively we are responsible for the stimulating and pleasant task of teaching portions of cell biology-immunology to undergraduates in the College and graduate and medical students in the Division of Biological Sciences. We have exceptional opportunities for interaction and collaboration with the clinical and basic science faculty at the University and at La Rabida Children's Hospital.

Please direct inquiries to: The Search Committee,
D. A. Rowley, D. J. Levitt, M. R. Loken, J. Quintáns,
H. Schreiber, F. W. Fitch, T. L. Steck,
and B. S. Strauss

La Rabida-University of Chicago Institute
East 65th Street at Lake Michigan
Chicago, Ill. 60649

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

Assistant Professor Biology

Department of Biology is seeking to fill tenure-track positions in two of the following areas, effective September 1982:

- **Cell Physiologist**, with research interest in mechanism of drug action, hormones, toxins or transmitters in cells;
- **Molecular Biologist**, with research interest in molecular aspects of cell biology; knowledge in recombinant DNA technology is particularly welcome;
- **Plankton Biologist**, with research interest in one or more of the following areas: productivity and food change; effects of toxic substances on plankton physiology and behavior; plankton ecosystems ecology.

Candidates appointed to these positions are expected to teach appropriate undergraduate and graduate courses and establish an active research program. Post doctoral experience is desirable. Please submit, by April 23, 1982, a curriculum vitae, a description of research work, and three letters of reference to Chairperson of the Search Committee, Biology Department, College of Arts and Sciences.



University of Massachusetts at Boston
Harbor Campus, Boston, MA 02125

an equal opportunity/affirmative action/title IX employer

CARBOHYDRATE CHEMIST

Genentech, Inc., a recognized leader in the field of recombinant DNA research and manufacturing, located on the beautiful San Francisco peninsula, is seeking a Carbohydrate Chemist to join our Protein Biochemistry Department.

Successful candidate will possess experience in the isolation and sequence of glycopeptides using HPLC and GC/mass spectrometry. Position requires a PhD in Chemistry or Biochemistry as well as 1-5 years post-doctoral experience.

We offer an excellent compensation and benefit package, including a liberal relocation program. Individuals are invited to submit their resume, including the names of three references, to **Human Resources**. Please refer to **Position # SC-43**.

Genentech, Inc.
Genentech, Inc.
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460 Point San Bruno Blvd.,
South San Francisco,
CA 94080.

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Head of Molecular Biology Department

The Wellcome Research Laboratories at Beckenham in Kent, UK, is the main centre for the research activities of the Wellcome Foundation Limited – the British based parent company of an international organisation concerned with pharmaceutical and biological products. The laboratories are within 12 miles of central London.

The Molecular Biology Department (formerly the Immunochemistry Department) at present has 36 people including 16 Scientists. It is concerned with basic and applied research on the molecular and cellular biology of the genes and gene products of parasites, viruses and bacteria. Malaria, Foot and Mouth Disease Virus and gene expression are prominent components of our expanding research programme. Excellent facilities are available for all aspects of this research, which is conducted by a young, well integrated scientific staff with skills in gene cloning, protein chemistry and cell biology. Positions are available for further appointments which could allow the introduction of additional research interests.

The department is part of the Experimental

Biology Division which also encompasses research on cellular immunology, monoclonal antibodies and biochemical parasitology. Emphasis is placed on scientific excellence, and collaboration within the Company and with external scientists is encouraged.

We are seeking a Scientist with substantial relevant research experience, a record of personal achievement and demonstrated ability in directing research.

For this important post, we offer a substantial salary which will fully reflect the responsibility of the role, plus a valuable range of fringe benefits including a Company car and assistance with relocation to the London or Kent area where appropriate.

Please send a detailed curriculum vitae, quoting reference WRL/181, to the Personnel Manager, The Wellcome Research Laboratories, Langley Court, Beckenham, Kent BR3 3BS, England.



Wellcome

POSITIONS OPEN



FACULTY POSITION— FOREST BIOMETRICS MICHIGAN TECHNOLOGICAL UNIVERSITY

Available September 1982 or sooner; 9-month, tenure-track assistant or associate professor position. Candidate should possess an earned doctorate with at least one degree in forestry. Background in soil-site relations is desirable, but experience in computer programming is essential. Salary negotiable. Applications can be obtained by contacting: **Dr. Lindo J. Bartelli, Head, Department of Forestry, Michigan Technological University, Houghton, Mich. 49931. Telephone: 906-487-2454. Michigan Technological University is an Equal Opportunity Educational Institution/Equal Opportunity Employer.**

FACULTY POSITION IN MEDICAL MICROBIOLOGY. Applications invited for Ph.D. to teach parasitology and pathogenic bacteriology to second-year medical students and to assist in teaching laboratories. Preference given to those with demonstrated teaching excellence. Rank and salary commensurate with qualifications. Interdisciplinary research with clinical faculty encouraged. Send curriculum vitae plus names, addresses, and telephone numbers of four current references by 30 April to: **Dr. E. H. Whitten, Associate Dean, The University of Health Sciences, College of Osteopathic Medicine, 2105 Independence Boulevard, Kansas City, Missouri 64124. Applications encouraged from all qualified persons.**

University of Michigan Medical School, Department of Radiology, has on occasion open **FACULTY POSITIONS** within the department and at its affiliated hospitals. Physicians filling these positions will take part in the programs of patient care, teaching, and research of the Department of Radiology. They will supervise the activities of house officers and aid in the teaching of house officers and medical students. Qualified applicants must be American Board of Radiology-certified or Board-eligible. Previous training or work experience in an academic institution as well as demonstration of previous academic research and teaching experience are desirable. Academic rank will depend on qualifications and experience.

Interested applicants should contact: **William Martel, M.D., Acting Chairman, Department of Radiology, University of Michigan Medical School, Ann Arbor, Michigan 48109. A nondiscriminatory, Affirmative Action Employer.**

GEOLOGY FACULTY POSITION

New England College seeks a dedicated teacher with training in mineralogy, igneous and metamorphic petrology, and structural geology, with interests in geophysics, geochemistry, or tectonics. Strong interest in undergraduate teaching essential. Some teaching experience at assistant or associate level preferred; Ph.D. required. Permanent position to start 1 September 1982. New England College has an active, competitive program in geology, leading to employment and graduate study. Applicants should send résumé, transcripts, and names of three references by 30 April 1982 to: **Vice President for Academic Affairs, New England College, Henniker, N.H. 03242. An Affirmative Action/Equal Opportunity Employer.**

IMMUNOLOGIST

Tenure-track position at assistant/associate professor level is available in the Department of Surgery and Microbiology; Ph.D., D.V.M., or M.D., and postdoctoral training. Candidate must have demonstrated ability to initiate and sustain independent research program and skill in teaching at the professional and graduate levels. Preferred areas of interest are: cellular immunology, tumor immunology, or immunoregulation.

The Department of Surgery, Microbiology and Immunology, has excellent resources for faculty research. The immunology group at Medical College of Virginia currently has a pre- and postdoctoral training grant and research clusters in the areas of transplantation, complementology, immunotoxicology, periodontology, and tumor immunology. Position available on 1 July 1982. Send curriculum vitae, three letters of reference, and a summary of research plans by 1 May 1982 to:

**T. Mohanakumar, Ph.D.
Associate Professor of Surgery and Microbiology
Box 5, MCV Station
Richmond, Virginia 23298**

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POSITIONS OPEN

GASTROENTEROLOGIST. The Department of Veterinary Biosciences, College of Veterinary Medicine, University of Illinois, is seeking applicants for a tenure-track position in gastroenterology. The individual shall have responsibility for teaching gastrointestinal physiology in the professional curriculum. In addition, this person shall develop a research and graduate training program in gastroenterology. Interaction and/or collaborative programs with the Departments of Veterinary Clinical Medicine, Veterinary Pathobiology, Animal Science, and Dairy Science are encouraged. The successful applicant will hold the D.V.M. and/or Ph.D. degrees and should have demonstrated appropriate expertise in teaching and research. Rank and salary commensurate with qualifications and experience. Starting date: 1 July 1982 or later, as negotiated. Closing date of search: 30 April 1982 or until position is filled. Please send letter of application and names of four referees to: **W. C. Wagner, Department of Veterinary Biosciences, University of Illinois, 1101 West Peabody, Urbana, Ill. 61801. Telephone: 217-333-2506.**

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

MEDICAL ONCOLOGIST

Opportunity for medical oncologist at professor or associate professor level. Research, teaching, and clinical activities and senior administrative responsibility in the Medical Oncology Unit and the Vermont Regional Cancer Center. Candidate must have record of leadership as demonstrated by publications and funding support. Applications, including curriculum vitae and supporting documents, should be sent to: **Irwin H. Krakoff, M.D., Director, Vermont Regional Cancer Center, University of Vermont, 1 South Prospect Street, Burlington, Vermont 05401.**

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MICROBIOLOGY/MOLECULAR GENETICS. The Department of Microbiology at The University of Chicago seeks scientists for advanced research and teaching in the areas of microbiology or molecular genetics. Individuals with an interest in a tenure-track appointment at any level are invited to apply. Address inquiries to: **Chairman, Search Committee, Department of Microbiology, The University of Chicago, 920 East 58 Street, Chicago, Illinois 60637. The University of Chicago is an Affirmative Action/Equal Opportunity Employer.**

MOLECULAR BIOLOGISTS

The Helicon Foundation is a nonprofit institution conducting basic research in molecular biology and microbial genetics with a primary focus towards the development of microorganisms that synthesize products valuable for agriculture and industry. Our laboratory is located in La Jolla, Calif., close to the other components of one of the most renowned biological research communities in the nation. Helicon is looking for individuals who could expect to both compete for grant funds and participate in targeted research with a team of other investigators. Please supply résumé and the names of three references to:

**Helicon Foundation
11095 Torreyana Road
San Diego, Calif. 92121**

MOLECULAR GENETICS

Two tenure-track faculty positions in molecular genetics are available at the University of Massachusetts/Amherst. Candidates should have a strong background in either prokaryotic or eukaryotic gene expression with specific research interests in replication, transcription, translation, genetic regulation, molecular evolution, or development. One appointment will be made in the Department of Biochemistry; the other appointment, which is specifically designated for a plant molecular biologist, will be made in the Department of Botany. Successful applicants will be expected to maintain an active research program, contribute to undergraduate and graduate teaching, and actively participate in the new Interdepartmental Graduate Program in Molecular and Cellular Biology. The positions will be filled at the level of assistant or associate professor, depending on experience, effective 1 September 1982 or 1 February 1983. Salaries are competitive. Send résumé, brief statement of present and future research, and three letters of recommendation to: **Molecular Genetics Search Committee, Department of Biochemistry, University of Massachusetts, Amherst, Mass. 01003. Closing date for applications is 1 June 1982. An Equal Opportunity/Affirmative Action Employer**

POSITIONS OPEN

LABORATORY CHEMIST. Private, 4-year, independent New York City college seeks individual to supervise environmental engineering and science laboratory. Duties include reagent preparation, equipment and instrument set-up, laboratory development, inventory control, and research support. *Minority and female applicants welcome. Anticipated starting date: 1 June 1982. Send résumé to:*

**Director
Environmental Engineering and Science
Manhattan College
Riverdale, N.Y. 10471**

MOLECULAR BIOLOGIST. A research associate position is available in the Division of Virology to participate in the molecular biology and genetics of replication of a large DNA virus. Applicants should have at least 2 years of postdoctoral experience in molecular biology with a working knowledge of recombinant DNA methodology. Salary is commensurate with training and experience. Please send curriculum vitae, including the names of three references, to: **Dr. Allan Granoff, St. Jude Children's Research Hospital, Division of Virology, P.O. Box 318, Memphis, Tenn. 38101. Affirmative Action Employer.**

OCCUPATIONAL MEDICINE

The University of California, Davis, announces a position for a senior academic physician to direct the Davis component of the State of California funded Northern California Occupational Health Center, a program involving faculty from the Schools of Medicine and Veterinary Medicine and the College of Agricultural and Environmental Sciences. The program will focus upon clinical service, teaching, and research in occupational medicine as related to the agricultural and rural workplace. Academic rank and salary commensurate with credentials with academic appointment in appropriate department of the School of Medicine. Research background in occupational health and medicine required. Past administrative experience or strong administrative potential necessary. Ability to work across multidisciplinary lines involving faculty from all three schools is necessary.

Unique responsibility and potential. Position open until filled. Send résumé with list of three references to:

**Chair, Search Committee for Occupational Medicine
c/o Office of the Dean
School of Medicine
MSI-C, Room 110
University of California
Davis, California 95616**

In compliance with federal and state laws and University policy, the University of California does not discriminate on the basis of race, color, national origin, religion, sex, handicap, age, or against disabled veterans of the Vietnam era. The University of California is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL ASSOCIATE

Anticipated position: rapid mixing, optical and magnetic resonance spectroscopy applications to extrinsic molecular probes in model and energy-transducing membranes. Ph.D. required. Extendable to 3 years if mutually satisfactory. Salary: \$15,000 per year. Tentative starting date: May 1982. Deadline for receipt of applications: 30 April 1982. Applicants should supply curriculum vitae and have three letters of reference sent to: **Dr. J. C. Smith, Department of Chemistry, Georgia State University, University Plaza, Atlanta, Georgia 30303. Telephone: 404-658-3120. An Equal Educational and Employment Opportunity Institution. A unit of the University System of Georgia.**

POSTDOCTORAL FELLOWS

Children's Hospital Medical Center is seeking two postdoctoral fellows to work with S. Abraham, Ph.D.

1) Candidates must have experience with cell cycle kinetics and tumor biology in order to investigate the dietary response of mammary tumor growth in mice,

and

2) Experience with tumor biology, including assessment of tissue whole mounts, transplantation of HAN and tumor, and familiarity with dietary requirements of mice.

Apply to: **Children's Hospital Medical Center, Personnel Department, 51st and Grove Streets, Oakland, Calif. 94609.**

An Equal Opportunity/Affirmative Action Employer

CARDIOVASCULAR PHARMACOLOGIST

The Merck Institute for Therapeutic Research is presently searching for two innovative and creative scientists to work in cardiovascular research at our West Point research facilities. The applicants we are seeking should have a doctorate degree and postdoctoral training in cardiovascular pharmacology or physiology. A special interest in cardiac, autonomic and receptor pharmacology, or expertise in electrophysiology is desirable. The successful candidate's published work should reflect creativity and the ability to perform independent work, as the position is one which involves exploring new approaches to the understanding and treatment of various cardiovascular diseases.

The Merck Institute provides an exceptional environment for research, which includes adequate laboratory space, modern equipment and technical support. Our research facilities are located in a rural setting 25 miles NW of Philadelphia.

Please send Curriculum Vitae complete with publication record to:
Mr. David C. Jones, Personnel Manager

**Merck Sharp & Dohme
Research Laboratories**

West Point, PA 19486
EEO/AA/VH/EMPLOYER



MERCK & CO., INC.

The University of California, Davis
announces

The Albert Holmes Rowe Chair of Human Genetics

Applications are now invited for the Albert Holmes Rowe Chair of Human Genetics, an endowed position in the School of Medicine and Department of Genetics of the College of Agricultural and Environmental Sciences at the Davis Campus of the University of California. The Rowe Chair is being established to provide impetus and focus for the development of the fields of mammalian/human genetics on the Davis Campus.

Applicants should be physicians who have made significant scholarly contributions in the fields of mammalian/human genetics. Applicants should have the ability to conduct basic research that offers the opportunity for training of graduate and professional students and the potential for development of collaborations with campus colleagues. The person selected will be expected to lead the development of a medical sub-curriculum in mammalian/human genetics including courses of instruction at the undergraduate and graduate levels, and involving the training of residents and clinical fellows. Since the Rowe Chair will form the nucleus of a program in mammalian/human genetics, applicants must have the administrative ability and interest to recruit additional faculty and to assist in their academic development.

The formal appointment will be to a tenured Professorship in the faculty of the School of Medicine and the Department of Genetics of the College of Agricultural and Environmental Sciences.

Applications in the form of a letter describing research and teaching interests and background, together with a curriculum vitae and the names of three referees, should be submitted by November 1, 1982, to:

James J. Castles, M.D.
Associate Dean for Academic Affairs
School of Medicine
Medical Sciences I—Building C
University of California
Davis, California 95616

In compliance with federal and state laws and University policy, the University of California does not discriminate on the basis of race, color, national origin, religion, sex, handicap, age, or against disabled veterans or veterans of the Viet Nam era. The University of California is an Affirmative Action/Equal Opportunity Employer.

contribute to broad toxicological activities for **SOHIO**
Investor in Energy

MANAGER, CORPORATE TOXICOLOGY

Grow with us as we project a \$60 billion investment in energy research, petroleum exploration production refining, chemicals and new business. Our expanding corporate activities have created a demand for ever increasing toxicological activities company-wide.

This professionally challenging position offers you an opportunity to build on your:

- **PhD, Toxicology or closely related field (Board Certification in Toxicology and Master's degree in Chemistry field preferred)**
- **Extensive related professional experience (Industrial atmosphere preferred) and demonstrated managerial ability**
- **Laboratory and toxicology information techniques background**

Reporting to the Office of the Director of Medical Services, your key responsibility would be to **plan** and **coordinate** all aspects of the company's efforts in the areas of toxicology (including ecotoxicology) as it relates to product safety, employee health, environmental homeostasis and compliance with legal requirements.

You would counsel management on the toxicity and adverse health effects of raw materials, manufacturing processes and products of the company's operating divisions. You would also

interface with professional and trade associations and other toxicological forums.

You would also provide toxicological information support, as requested, to customers, physicians and government agencies.

You'll grow with SOHIO, as we continue to grow through the 80's! You'll appreciate the attractive compensation/benefits plan and high level professional working atmosphere. **Our relocation package for new hires who are homeowners includes a mortgage interest differential allowance, third party home purchase option and other features normally restricted to internal transfers.** The next move is yours! Send your resume and salary history/requirements to:

Michael R. English, Sr. Executive Recruiter
THE STANDARD OIL COMPANY (Ohio)
1424 Midland Building — 366
Cleveland, Ohio 44115

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NO THIRD PARTY INQUIRIES, PLEASE.

"Help us Help to Assure America's Energy Future"



The International Laboratory for Research on Animal Diseases (ILRAD), Nairobi, Kenya, is an internationally funded institution, with the mandate to develop improved methods of control for two major diseases of livestock, trypanosomiasis and theileriosis, through an integrated program of multidisciplinary research. Disciplines include biochemistry, molecular biology, immunology, cell biology, pathology, and parasitology with appropriate support units.

Applications for the following positions are invited from suitably qualified scientists:

PARASITOLOGIST (Reference: L1/82/1)

To investigate parasitological and immunological aspects of *Trypanosoma vivax* infections in domestic ruminants and laboratory animals. This will include a study of the antigenicity of the parasite and the epidemiology of *T. vivax* infections.

Applicants should have a first degree in biology, medicine, or veterinary medicine, a doctorate in parasitology or parasitic disease, and 5 to 10 years of research experience. Preference will be given to candidates with experience in protozoology and biochemistry or immunology.

BIOCHEMIST (Reference: L4/82/2)

To investigate structural and functional characteristics of enzymes, proteins, peptides, and lipids from bloodstream and metacyclic forms of African trypanosomes and their hosts, with particular reference to the induction of skin reactions during the initial stages of infection.

Applications should have a first degree in biology, medicine, or veterinary medicine, a doctorate in biochemistry, and experience in protein and peptide chemistry, as well as isolation and characterization of enzymes.

CELL BIOLOGIST (Reference: L3/82/2)

To develop technology for in vitro cultivation of *Trypanosoma vivax*, and to provide expertise for cultivation of other pathogenic trypanosomes for biochemical, immunological, and chemotherapeutic investigations.

Applicants should have a doctorate in cell biology or tissue culture and preferably 5 to 10 years of experience in the cultivation of pathogenic protozoa, preferably trypanosomes. A sound knowledge of immunology or biochemistry would be advantageous.

IMMUNOLOGIST (Reference: L6/82/2)

To study the role of cell-mediated immunity in the acquisition of resistance by cattle to *Theileria parva* and develop techniques to distinguish between bovine lymphoid cells infected with antigenically different parasite populations.

Applicants should have a first degree in veterinary science, medicine, or biology, and a doctorate in cell-mediated immunity and/or cell surface antigen characterization. Additional postdoctoral experience in the role of cellular immunity in disease or identification of cell surface antigens relevant to the induction of cell-mediated immunity would be advantageous.

VETERINARY PARASITOLOGIST (Reference: L5/82/3)

To join an established program on the epidemiology of African theileriosis with the objective of developing and applying methods of immunological control. The research includes parasite isolation and characterization, assessment of their potential as immunogens, the application of control methods in the field and the elucidation of epidemiological relationships between the pathogenic species of African *Theileria*.

Applicants should have a first degree in veterinary medicine and a doctorate in a relevant area of veterinary parasitology. Preference will be given to candidates with experience in tick-borne protozoa, especially in vitro cultivation and host-vector-parasite interactions.

The above positions are ILRAD international staff positions and salaries will be paid in U.S. dollars. Successful candidates are expected to contribute to the training program. Initial salary levels will be determined by qualifications and experience. Moving, housing, commutation, and education allowances are paid and there are medical and retirement benefits. Applications should include current curriculum vitae and the names and addresses of three referees. Applications, citing the position reference number, should be sent by 7 May 1982 to: Chief Personnel Officer, ILRAD, P.O. Box 30709, Nairobi, Kenya.

POSITIONS OPEN

POSTDOCTORAL, Washington, D.C., to study the molecular biology of the modification of nucleosomal chromatin structure/function. Recent Ph.D. with experience in above or in gene technology, and with curiosity to apply this to regulation in eukaryotic chromatin. Collaborative projects with laboratories at NIH, Bethesda, ongoing. Required early summer. Send curriculum vitae to:

Dr. Mark Smulson
Department of Biochemistry
Georgetown University School of Medicine
Washington, D.C. 20007

UNIVERSITY OF PENNSYLVANIA POSTDOCTORAL CARDIOPULMONARY RESEARCH FELLOW

The Cardiovascular-Pulmonary Division of the Department of Medicine has available a 2-year position as a postdoctoral research fellow. The position will be available in July 1982. The research will deal with the pulmonary circulation and pulmonary hypertension and will involve both hemodynamic and metabolic components. Applications are invited from M.D.'s or Ph.D.'s with a background in circulatory physiology coupled with an interest in metabolism. The successful candidate will collaborate closely with seasoned investigators in hemodynamics, respiratory physiology, metabolism, and pathology. Application deadline is 23 April 1982. Submit curriculum vitae, the names of three references, and a brief description of future interest to:

Dr. Alfred P. Fishman
Hospital of the University of Pennsylvania
871 Maloney Building/G1
3600 Spruce Street
Philadelphia, Pennsylvania 19104

The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer, M/F.

Postdoctoral Position in NIH Clinical Nutrition Training Program; 2 to 4 years starting 1 July 1982 for Ph.D. Background in biochemistry to work in folate metabolism. Focus of study: mechanisms of intestinal absorption of folates and role of intestinal folate conjugase. Experience required in enzymology and protein purification. Send curriculum vitae and three references to: **Dr. C. H. Halsted**, University of California, Division of Gastroenterology, TB-192, Davis, Calif. 95616. An Equal Opportunity Employer.

POSTDOCTORAL POSITION IN PHARMACOLOGY

Position available immediately to study in the area of anticancer and antiviral chemotherapy. Studies will involve enzyme purification, cell culture, recombinant DNA technologies, hybridoma, and in vitro transcription system. Applicants should have strong background in biochemistry, molecular biology, cancer pharmacology, or medicinal chemistry. Send curriculum vitae and three references to: **Dr. Yung-chi Cheng**, Professor, Department of Pharmacology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 27514. *The University of North Carolina is an Equal Opportunity/Affirmative Action Employer and specifically invites and encourages applications from women and minorities.*

POSTDOCTORAL POSITION available summer/fall 1982. The project focuses on the regulation of enzymes controlling the structure of membrane phospholipids in *Escherichia coli*. Applicants should be recent graduates with a strong background in biochemistry or microbial genetics and/or physiology and have a demonstrated ability to design and conduct an independent research program. Submit curriculum vitae and letters of reference to: **Dr. Charles O. Rock**, Department of Biochemistry, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, Tennessee 38101.

Equal Opportunity Employer

POSTDOCTORAL POSITION to study the molecular nature of the voltage-sensitive sodium channel of nerve and muscle. This position will interact with an aggressive, interdisciplinary approach to molecular mechanisms of sodium channel function, and experience may be obtained in a wide range of techniques. It would be helpful if candidates had some background in membrane biochemistry, protein chemistry, and/or immunology (particularly in monoclonal antibody methods). Interested persons should send their curriculum vitae, two letters of reference, and a short statement describing their interest to: **Dr. S. R. Levinson**, Department of Physiology, C240, University of Colorado School of Medicine, Denver, Colo. 80262. *The University of Colorado is an Equal Opportunity/Affirmative Action Employer.*

Director Neuroscience

Ann Arbor, Michigan

The Warner-Lambert/Parke-Davis, Pharmaceutical Research Division is seeking an outstanding, innovative scientist to lead an expanding neuroscience program.

Reporting to the Director of Pharmacology, the successful candidate will be responsible for:

- The discovery and development of drugs in the neuroscience field, including such areas as cognition, psychoses and neurological disorders.
- Participation in interdisciplinary teams which require liaison with other scientists in Pharmacology, Chemistry and Toxicology as well as the Clinical Research Group.
- Representation of the company in regulatory matters and within the scientific community.
- Attraction and development of personnel within the section.

Qualified applicants should possess:

- A Ph.D in Pharmacology or related field with a thorough knowledge of centrally active drugs.
- 5 to 10 years experience in a drug discovery environment.

- An outstanding scientific record as evidenced by publications indicating a significant contribution to the scientific literature.

- Administrative and communication skills, with the ability to direct and motivate a multidisciplinary staff.

Our research facilities, located next to the University of Michigan campus in Ann Arbor, Michigan, are among the finest and best equipped in the world and are devoted exclusively to the discovery and development of new drugs.

Join the exciting Research and Development Team at Warner-Lambert in this very key position and enjoy outstanding compensation and benefits, including exceptional relocation package.

Send curriculum vitae and salary history/requirements in confidence to: Ms. D. Love, Human Resources Supervisor, Dept. 001-82 WARNER-LAMBERT/PARKE-DAVIS, Pharmaceutical Research Division, 2800 Plymouth Rd., Ann Arbor, Michigan 48105. An Equal Opportunity Employer M/F/H

**WARNER
LAMBERT**

MOLECULAR BIOLOGISTS

The Upjohn Company, Kalamazoo, Michigan, has openings for BS/MS level molecular biologists in its Cancer Research, Experimental Agricultural Sciences, Fermentation Research, and Molecular Biology Research units.

Applicants should have a BS or MS in biochemistry, microbiology, or related field and research experience in one or more of the following areas: Nucleic acid biochemistry, Recombinant DNA technology, Microbial genetics, Animal cell culture, Plant tissue culture and protoplast manipulation, Chemical synthesis of oligonucleotides, Monoclonal antibodies, Membrane receptor biology/biochemistry.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a mix of excellent cultural, educational, and recreational pursuits, including numerous lakes and a four-season climate. Upjohn offers an excellent salary, commensurate with experience, and an outstanding benefits program.

Qualified candidates should send a resume, appropriate transcripts, and references to:

Upjohn

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Professional and Supervisory
Employment
The Upjohn Company
7000 Portage Rd.
Kalamazoo, MI 49001

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BIOCHEMICAL PHARMACOLOGIST

Sterling-Winthrop Research Institute announces an opening in its Immunopharmacology section for an individual to participate in a multidisciplinary research effort on the pharmacologic modulation of arachidonic acid metabolism. The aim of this program is the development of therapeutic agents for use in allergy, inflammation and analgesia. The successful candidate will have a Ph.D or equivalent in Pharmacology or Biochemistry with minimum of 1 year relevant experience.

We offer an attractive salary and benefit package with the opportunity for career growth. The institute is located near Albany, N.Y. which is the center of major summer and winter recreational activities.

Please send your Curriculum Vitae including salary requirement in confidence to:



Mr. John G. Barry
Employment Administrator
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HARRIS LABORATORIES, INC.

DIRECTOR CLINICAL RESEARCH DIVISION

Harris Laboratories, Inc., one of the largest diversified Independent Laboratories in the U.S., has a unique and excellent career opportunity for a Director of one of its major divisions, the Clinical Research Division. The Harris Laboratories Clinical Research Division conducts a variety of types of clinical research at its Lincoln facility on a contract basis for most major pharmaceutical companies.

The position requires a Ph.D. in the Life Sciences, or M.D. Requirements include strong management and communication skills, as well as good technical background. Technical background in Pharmacology or Clinical Research is preferred, but not necessary. Responsibilities will include management, technical liaison with sponsors and regulatory agencies, and business development.

Harris Laboratories is a rapidly growing, diversified organization offering great career opportunities to performance oriented qualified individuals. Salary commensurate with experience. Send c.v. and history of experience in confidence to **Human Resources Department, Harris Laboratories, Inc., P.O. Box 80837, Lincoln, NE 68501.**



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GROUP LEADER Radiation and Photochemistry

The Chemistry Division of Argonne National Laboratory is now seeking candidates for the position of Group Leader of Radiation and Photochemistry Research. This group, which consists of sixteen highly qualified researchers and has available a unique array of experimental facilities, has been an acknowledged leader in the field of Radiation Chemistry for several decades. Current fundamental research activities include the study of fast chemical processes associated with the passage of ionizing radiation through solutions, electron tunneling, fast radical reactions, photochemistry, chemical storage of solar energy, combustion kinetics and atmospheric chemistry. The Chemistry Division itself consists of approximately two hundred researchers conducting basic research over a broad range of disciplines including the chemical, materials and nuclear sciences.

The applicant filling this position will be expected to develop new research initiatives, as well as to lead ongoing programs. To be considered as candidates, applicants must be recognized as leaders in their areas of research and have successfully led group research efforts. Candidates should have a strong background in physical chemistry with specific experience in one or more of the following areas: radiation chemistry, photochemistry, laser chemistry or fast reaction kinetics.

Persons interested in this position are encouraged to contact or submit their resumes to: Dr. John P. Unik, Acting Director, Chemistry Division, or Mr. Ronald A. Johns, Manager, Professional Placement, Box CHM,



Argonne National Laboratory, 9700 S. Cass Avenue, Argonne, Illinois, 60439.

An Affirmative Action/Equal Opportunity Employer. Women, Minorities, the Handicapped, and Veterans are urged to apply.

PHYSIOLOGICAL CHEMISTRY. Investigate terpenoid biosynthesis and regulation in higher plants, involving tracer studies and isolation of key enzymes. Some experience with use of radioactive compounds is desirable. One-year term appointment, renewable, in the Chemical Biodynamics Division. Please send two résumés to: **Employment Office, Lawrence Berkeley Laboratory (University of California), One Cyclotron Road, Berkeley, Calif. 94720.** Please specify Position Number A0143. *An Equal Opportunity Employer, M/F/H.*

POSTDOCTORAL POSITION. Available 1 July 1982 for neurophysiological research on the organization of mammalian visual pathways. Background in single-cell recording and vision is essential; anatomical or psychophysical experience helpful. Send curriculum vitae, brief statement of research experience and interests, and names of three references to: **R. D. Freeman, University of California, 360 Minor Hall, Berkeley, Calif. 94720.**
Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL POSITION at University of California for immunologist or cell biologist to study the mechanisms by which interferons influence lymphocyte growth and antibody synthesis. Experience with lymphokines and hybridomas desirable. Salary: \$16,500 to \$18,000. Send curriculum vitae, brief statement of research interests, and three letters of recommendation to: **Dr. Roberta M. Kamlin, Building 1, Room 127, Veterans Administration Medical Center, 4150 Clement Street, San Francisco, Calif. 94121.**

INTERDISCIPLINARY POSTDOCTORAL POSITIONS

Project combines monoclonal antibodies, enzymes, nucleic acids, bioorganic synthesis, HPLC, and capillary GC to achieve ultratrace molecular counting analysis of organic and biological molecules. Bioorganic, organic, biochemical, and analytical chemists required. Positions available throughout 1982 starting in the summer.

Send résumé to: **Dr. Roger Giese, Institute of Chemical Analysis, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION in the Departments of Medicine and Cell Biology, Baylor College of Medicine. Available to work on ongoing projects involving the molecular biology of human tumor antigens. The project involves hybridization techniques, gene cloning and sequencing. Contact:

**Elliot Alpert, M.D.
Baylor College of Medicine
Professor of Medicine
Department of Medicine/GI
1200 Moursund, 533D
Houston, Texas 77030**

An Equal Opportunity Employer

POSTDOCTORAL POSITION available July 1982. The Division of Biochemical and Clinical Pharmacology at St. Jude Children's Research Hospital is seeking a postdoctoral applicant interested in the synthesis and biological evaluation of nucleoside and nucleotide analogs as potential anticancer agents. Research experience in organic synthesis is essential; background in other areas of medicinal chemistry is desirable. Further details and applications may be obtained from: **Dr. T. Ling Chwang, Division of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, Memphis, Tenn. 38101.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

The Marshfield Medical Foundation has a postdoctoral position available for a biochemist interested in the study of the renin-angiotensin system. The research will emphasize the isolation and characterization of proteins and enzyme kinetics. All interested postdoctoral applicants should send complete curriculum vitae and the names of three references to: **Dr. Duane Tewksbury, Marshfield Medical Foundation, 510 North St. Joseph Avenue, Marshfield, Wisconsin 54449.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION available immediately to study hormone action in ovarian cells; work involves cell culture, gonadotropins, prolactin, receptors, steroidogenesis, ornithine decarboxylase, and polyamines. Send curriculum vitae and names of three references to: **Dr. James M. Hammond, Division of Endocrinology, The Milton S. Eshley Medical Center, The Pennsylvania State University, Hershey, Pa. 17033.** *An Equal Opportunity/Affirmative Action Employer.*

for research on the biochemistry of myosin light chains and cyclic nucleotides in cardiovascular tissues. Background in enzyme purification desirable. Salary negotiable. Send curriculum vitae, brief statement of research experience, and names of three references to: **Dr. R. C. Bhalla, Department of Anatomy, Laboratory of Experimental Cardiology, University of Iowa Medical Center, Iowa City, Iowa 52242.** *The University of Iowa is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION available to study the isolation, characterization, and carbohydrate chemistry of bovine and human bone glycoproteins. A combined program between the Connective Tissue Laboratories, Rheumatic Diseases Unit, Department of Medicine, and the Carbohydrate Research Institute, Department of Chemistry. Medical Research Council salary rates will apply. Send résumé, statement of research interest, publications, and three letters of recommendation by 15 May 1982 to: **Dr. T. Anastasiades, Director, Rheumatic Diseases Unit, Queen's University, 26 Barrie Street, Kingston, Ontario, Canada K7L 3J7.**

POSTDOCTORAL POSITION available for a Ph.D. with training in membrane or protein biochemistry. Project investigates lipid control of membrane protein organization through vibrational spectroscopic and calorimetric studies of lipid-protein interaction. Send résumé and names of three references to: **Dr. R. Mendelsohn, Olson Chemical Laboratories, Rutgers University, Newark, New Jersey 07102.**

POSTDOCTORAL RESEARCH APPOINTMENT to study herpes simplex virus glycoproteins, virus-cell recognition, and antiherpetic drugs with Ken S. Rosenthal, Ph.D., Microbiology/Immunology. Available immediately. Please send curriculum vitae and names of three references to: **Office of the Vice Provost, Northeastern Ohio Universities College of Medicine, Rootstown, Ohio 44272.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE for recent Ph.D. to work on the biochemistry of microsomal cytochrome P-450 system and carcinogen metabolism. Available now or July 1982. Salary is dependent upon experience. Send curriculum vitae to: **Dr. C. S. Yang, Department of Biochemistry, University of Medicine and Dentistry—New Jersey Medical School, 100 Bergen Street, Newark, N.J. 07103.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATES. Positions are available in chemical carcinogenesis to study the molecular biology of carcinogen-DNA interactions. These studies are designed to investigate the role of carcinogens in the alteration of gene expression. Methodology to be employed will be DNA hybridization, restriction enzymology, cloning, and nucleic acid synthesis. Apply by sending curriculum vitae and three letters of recommendation to: **Dr. Thomas Meehan, Michigan Molecular Institute, 1910 West St. Andrews Road, Midland, Mich. 48640.** *An Equal Opportunity Employer.*

RESEARCH AND DEVELOPMENT ASSISTANT

Biological Corporation of America, a division of Cooper Biomedical, Inc., is seeking an individual with a M.S. in microbiology or biochemistry interested in joining a new aggressive R & D group working on nonisotopic in vitro diagnostic immunoassay. This position is available immediately. Excellent benefit package. Salary and rank dependent on credentials. Forward résumé to: **Robert W. Veltri, Ph.D., Director, R & D, Biological Corporation of America, 1230 Wilson Drive, West Chester, Pa. 19380.** *An Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSOCIATE POSITION

Biophysicist/biochemist (Ph.D.) with experience in bacterial photosynthetic electron transport. The applicant should have detailed knowledge in design, construction, and use of extremely sensitive scanning and kinetic optical spectrometers. Experience in photon counting techniques, monolayer technology, and interfacing DEC computers to laboratory instrumentation is important. The position will be tenable at the Solar Energy Research Institute (SERI) under subcontract with the University of Colorado at Boulder. Application deadline: 10 May 1982. Send résumé, including names of three references, to either: **Dr. M. Seibert, SERI, 1617 Cole Boulevard, Golden, Colo. 80401,** or **Dr. L. A. Staehelin, Department of Molecular, Cellular and Developmental Biology, Box 347, University of Colorado, Boulder, Colo. 80309.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION at the University of California, Irvine, in the laboratory of Dr. Kevin P. Bertrand to work on the molecular genetics of: (i) tetracycline resistance in *Escherichia coli*, (ii) antibiotic resistance in *Bacteroides fragilis*, or (iii) plasmids in *Halobacterium halobium*. Experience with recombinant DNA techniques and/or biochemical characterization of membrane proteins desirable. Send curriculum vitae and letters of reference to:

**Dr. Kevin P. Bertrand
University of California, Irvine
College of Medicine
Department of Microbiology
Irvine, Calif. 92717**

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PROFESSOR OR ASSOCIATE PROFESSOR OF TOXICOLOGY to provide scientific leadership and to serve as administrative head of an established graduate program in toxicology comprised of 12 faculty and 72 students (M.P.H., M.S., Ph.D., and postdoctoral). Applicants must have a doctoral degree in toxicology or a related field and have a strong commitment to excellence in toxicology teaching, research, and the application of toxicological knowledge to societal needs. Publications should reflect creative and meritorious research in the field, and evidence should be provided of successful management of research programs. This position will start no later than 1 September 1983. Starting date and salary are negotiable. Send curriculum vitae, including complete bibliography as well as names and addresses of three references, to:

**Dr. R. J. Richardson
Chair, Search Committee
Toxicology Research Laboratory
Department of Environmental and Industrial Health
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109**

The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Applications from women and minority candidates are especially encouraged.

DEPARTMENT OF BOTANY VISITING PROFESSORSHIP

Applications are invited for a temporary replacement position, available from 1 July 1982, at the University of Toronto, Botany Department. The appointment is for 1 or possibly 2 years and the successful applicant will be expected to teach a full year course in **PLANT ULTRASTRUCTURE** (fungi, algae, and higher plants), a half-year course on the **MORPHOLOGY AND EVOLUTION OF VASCULAR PLANTS**, and participate in a first year **INTRODUCTORY BIOLOGY COURSE**. Applicants should have a Ph.D. and preferably some teaching experience. A research interest in fungal ultrastructure and/or plant pathology would be an advantage. Salary: \$22,000 or commensurate with experience. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. Applicants should send curriculum vitae and three letters of reference to: **The Chairman, Department of Botany, University of Toronto, Toronto, Ontario, Canada M5S 1A1.** Deadline for applications is 30 May 1982.

SENIOR SCIENTIST, NUCLEIC ACID CHEMISTRY. Applications at the research assistant professor level are invited for a person with considerable background in nucleic acid chemistry to study an unusual DNA in lymphocytes. Position expected to open in April 1982 for up to 3 years. Salary commensurate with experience. Applications together with curriculum vitae, research experience and interests, and the names of three references should be sent to: **Dr. Phyllis R. Strauss, Department of Biology, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115.** *An Equal Opportunity/Affirmative Action/Title IX University.*

STAFF RESEARCH ASSOCIATE Department of Biochemistry and Biophysics University of California, San Francisco

Applications are invited for a **RESEARCH TECHNICIAN** position in an established laboratory of this large, active department. Applicants must be experienced in recombinant DNA techniques; those having additional experience with tissue culture, *Drosophila*, and/or cytological techniques will be favored. Requirements include experimental skills plus adequate organizational abilities to assist in the maintenance of an active laboratory. Salary: \$19,224 to \$23,112, plus benefits.

Send résumé by 1 May to: **SRA Search Committee, Department of Biochemistry and Biophysics, University of California, San Francisco, San Francisco, Calif. 94143.**
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BIOGEN

Positions are available for scientists with experience and skills in Recombinant DNA Technology and Synthetic Organic Chemistry in the specialty areas of:

- **cDNA Cloning**
- **Expression of eucaryotic DNA sequence in *E. coli*, *B. subtilis*, yeast and other fungi and in mammalian cells.**
- **Protein purification and chemistry.**
- **Organic synthesis of peptides and oligonucleotides.**

Biogen is a biotechnology company with laboratories in the United States and Switzerland, developing commercial applications of molecular biology in the areas of agriculture, chemicals, pharmaceuticals and energy. We offer a challenging scientific career with the opportunity to interact with talented colleagues in a stimulating environment.

Research is currently underway in our laboratories in Cambridge and we are continuing to expand our staff and facilities during 1982. We are seeking people in a variety of areas as we initiate new projects.

Biogen offers a competitive salary and benefits package.

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Please send your resume and a list of three individuals whom we may contact for references on your behalf. All replies will be evaluated in confidence. Biogen is an equal opportunity employer.

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Environmental Science

The Environmental Science Program expects to fill a tenure-track position in one of the following areas for September 1982. The successful candidate is expected to establish a strong independent research program, become actively involved in cooperative efforts to study applied environmental problems, and participate in teaching, primarily at the graduate level. PhD required; post doctoral experience is desirable. Rank and salary are commensurate with experience.

- **Environmental Toxicologist**—Research interests in the effects and incorporation of toxic substances in food change and biogeochemical cycles;
- **Marine Sedimentologist**—Research interests in biogeochemistry and particle reworking of sediments with emphasis on the effects of pollution;
- **Marine Benthic Ecologist**—Research interests in population and community ecology in coastal habitats.

Please send curriculum vitae, a description of your research and three letters of reference by April 23, 1982 to: Dr. Michael A. Rex, Chairman of Search Committee, Environmental Science Program, College of Arts and Sciences.



University of Massachusetts at Boston
Harbor Campus, Boston, MA 02125

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An International Meeting on "Liposomes *in vivo*", sponsored by the Ministère d'Etat de la Recherche et de la Technologie, Mission des Biotechnologies, will be held from September 2 to September 5, 1982, at the Ecole Nationale Supérieure d'Agronomie de Grignon, 40 km west of Paris.

The aim of the Meeting is to bring together Biophysicists, Biochemists, Medical Scientists, . . . , interested in the "*in vivo*" properties and applications of liposomes. The invited speakers will deal with problems of liposome structure and stability *in vivo*, interaction of liposomes with blood components, fate of the liposomes *in vivo*, uptake by different organs, problems concerning the targeting of liposomes *in vivo*, activation of macrophages, liposome-mediated DNA transfer *in vivo*, immunological properties of liposomes, different therapeutical applications.

The invited speakers who have already agreed to participate include:

A. BANGHAM	(Cambridge, UK)
S. BURAKOFF	(Cambridge, MA, USA)
I. FIDLER	(Frederick, MD, USA)
G. GREGORIADIS	(Harrow, UK)
R. JULIANO	(Houston, TX, USA)
L. LESERMAN	(Marseille, F)
P. LURQUIN	(Pullman, Wash., USA)
E. MAYHEW	(Buffalo, NY, USA)
M. MONSIGNY	(Orléans, F)
R. NEW	(Liverpool, UK)
C. NICOLAU	(Orléans, F)
G. POSTE	(Philadelphia, PA, USA)
B. RYMAN	(London, UK)
G. SCHERPHOFF	(Groningen, NL)
M. WEINER	(Cincinnati, OH, USA)

Registration fees of 800 FF include accommodation and meals, will have to be paid by June 1st, 1982. The payments should be sent to **Dr. Claude NICOLAU, Centre de Biophysique Moléculaire, C.N.R.S., 1A, avenue de la Recherche Scientifique, 45045 Orléans Cedex, France.**

A limited number of grants for travel and/or living expenses will be available. Applications should be sent to **Dr. Philippe SORIANO, Centre de Biophysique Moléculaire, 1A, avenue de la Recherche Scientifique, 45045 Orléans Cedex, France.** Additional informations and application forms may be obtained from Dr. Philippe SORIANO.

DEADLINE FOR REGISTRATION: MAY 1st 1982.

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POSITIONS OPEN

RESEARCH ASSOCIATE position available immediately for a Ph.D. with extensive experience in the molecular biology of connective tissue macromolecules. The successful candidate will initiate an active molecular biology program in coordination with the existing research on the chemistry of collagen and other macromolecules in heritable disorders of connective tissue and bone metabolism. A tenure-track affiliation with McGill University at the assistant professor level can be considered for the qualifying individual. Salary will be commensurate with experience. Some internal funding will be immediately available, while the candidate is expected to be able to attract external funding for the expansion of his/her program. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Curriculum vitae and three letters of reference should be sent to: **Dr. F. H. Glorieux, Genetics Unit, Shriners Hospital for Crippled Children, 1529 Cedar Avenue, Montreal, Quebec, Canada H3G 1A6.**

VICE PRESIDENT—AGRICULTURAL ADMINISTRATION AND EXECUTIVE DEAN OF AGRICULTURE HOME ECONOMICS AND NATURAL RESOURCES THE OHIO STATE UNIVERSITY

The Ohio State University is seeking applications and nominations for Vice President—Agricultural Administration and Executive Dean of Agriculture, Home Economics, and Natural Resources. Major responsibilities include serving as academic dean of agriculture and having administrative responsibility for programs in agriculture, home economics, natural resources, the Ohio Agricultural Research and Development Center, the Cooperative Extension Service, and the Agricultural Technical Institute. Candidates should have an earned doctorate, broad academic experience in a discipline within the science of agriculture, and a demonstrated record of administrative/leadership ability, generally consonant with the complexity of a large land-grant university.

Nominations and letters of interest with pertinent supporting materials must be received by 1 May 1982 and should be addressed to: **Dr. Francille Firebaugh, Chairperson of the Search Committee, 235B Campbell Hall, 1787 Neil Avenue, The Ohio State University, Columbus, Ohio 43210.**

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ENDOCRINE AND DIABETES FELLOWSHIP. Boston University School of Medicine (University Hospital), Boston, Mass. Unexpected vacancy in well-established program beginning July to September 1982. Duties will include participation in endocrine and diabetes clinics and metabolic unit. Active teaching program with opportunities for research. Major funded research areas include: adrenal-hypertension, J. Melby; gonadotropin biochemistry and physiology, J. Vaitukaitis; metabolism of exercise, N. Ruderman; fuel and amino acid metabolism, M. Goodman; brain metabolism in diabetes, A. McCall. For further information, contact: **James Melby, M.D., or Neil Ruderman, M.D., D.Phil., Endocrine and Diabetes Section, University Hospital, 75 East Newton Street, Boston, Mass. 02118. An Equal Opportunity Employer, M/F.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP—CLINICAL CHEMISTRY, for individual with outstanding qualifications. Accredited program offers opportunity to pursue advanced training in a modern, progressive laboratory in university medical center setting. Contact: **Norbert Tietz, Director, Clinical Chemistry, Department of Pathology, University of Kentucky Medical Center, Lexington, Ky. 40536.**

POSTDOCTORAL FELLOWSHIP in Basic and Clinical Immunology, Medical University of South Carolina. Position available 1 July 1982 for M.D. and/or Ph.D. Salary commensurate with experience. We are a highly motivated department with more than 70 publications last year and we provide an interdisciplinary environment for research. Research training is available in immunogenetics, cellular immunology, immunochemistry, cancer immunology, immunology of aging and clinical immunology, and so forth. We also provide an intellectually stimulating and unique geographic environment (located on the coast and offering year-round fishing, golfing, sailing, hunting, and tennis). Contact:

**H. Hugh Fudenberg, M.D., Chairman
Department of Basic and Clinical Immunology and Microbiology
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Charleston, S.C. 29425**

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MEETING

NEOPLASTIC AND NONNEOPLASTIC LESIONS OF MICE: AN IN-DEPTH MORPHOLOGIC REVIEW

**June 21-23, 1982
Arlington, Virginia**

For more information contact: John E. Rule

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COURSE

BASIC CELL AND ORGAN CULTURE COURSE: 19 to 23 July 1982. Director: **W. H. J. Douglas.** Lectures and laboratory exercises in primary cell culture, karyology, monolayer, and organ culture. Cell separation, cryopreservation, and aseptic techniques are also discussed. Tuition fee: \$450. Applications due 1 June. Contact: **Course Administrator, Cell Culture Research Unit, Department of Anatomy and Cell Biology, Tufts University School of Medicine, 136 Harrison Avenue, Boston, Mass. 02111.**

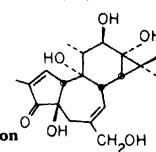
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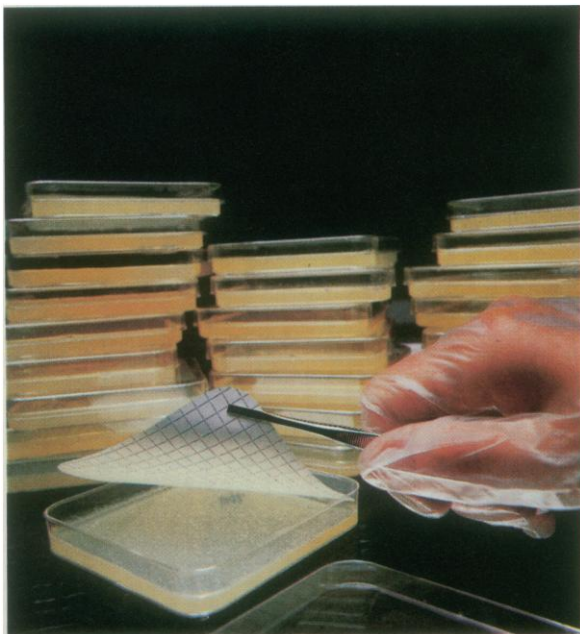
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S&S products helped develop the microbes used by pharmaceutical companies to make interferon, insulin and human growth hormone. And, the use of genetically altered microbes in the production of alcohol for fuel is now being explored.

To learn more about S&S products for genetics research, request Bulletin #301—“Products for Nucleic Acid and Protein Research.”

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