

ested in isolating the "pure" racial ancestors of existing peoples. Stepan also has some new material on the rise of polygenism (the view that the races of man belong to different species) at the expense of the traditionally accepted, and scripturally sanctioned, monogenism.

Although several chapters are very good, the general claims made in the book seem more dubious. To begin, it is a mistake to identify advocacy of or opposition to eugenics, phrenology, or even polygenism with the endorsement or rejection of racism. Nearly everyone assumed that non-Europeans belonged to lower races; it was both possible and common to hold that environment is responsible for race differences while maintaining, as did the unswerving monogenist James Cowles Prichard, that blacks and Australians had "runder faculties" and less capacious skulls corresponding to their less civilized state. The polygenist or eugenic race view may be more biological, but the general superiority of the white race simply was not at issue in these scientific debates. The persistence of "racism" among phrenologists and evolutionists prior to the time of anticolonialism and the American civil rights movement must be explained in the same terms as the continued belief in white superiority among members of the lay public.

In particular, there is little basis for linking racism with "typological" as opposed to "population" thinking, as Stepan does. Darwin and his followers were preeminently population thinkers, yet they were happy to fill the gap between ape and Englishman with lower human forms and cared little whether they were seen as separate species. Karl Pearson may have used statistical methods to devastate certain racialist arguments, but he was also a leading eugenicist who held unambiguously that the black race was, on the average, vastly inferior to the white. Stepan's own assertion that polygenist racism was greatly promoted by the resurgence of belief in the Great Chain of Being, and the consequent need to find intermediate types between humans and the animals, is inconsistent with her argument about typological thinking, for the Great Chain assumes a continuous plenum of life forms that is incompatible with the existence of fixed, discrete species.

Not surprisingly, race is for Stepan very much a live issue, and she accepts as dogma that the progress of science has left no justification for racialist thinking. She is unable to resist lashing out at modern proponents of scientific ideas on

man of which she disapproves, by placing them in a discredited tradition. IQ enthusiasts are dismissed either as dishonest (Cyril Burt) or as not up to the highest standards of scientific argument (Arthur Jensen). Inevitably, if somewhat mysteriously, she takes on sociobiology: "The simplistic speculations of sociobiologists about human behavior do a disservice to society by falsely [?] making hereditarianism popular" (p. 189). The long and mostly irrelevant sections on phrenology and eugenics seem to have been written simply so that the author could express disapproval of their hereditarian assumptions about human nature. Stepan can also be quite Whiggish. A. R. Wallace "could never free himself entirely from the racial ideas of his day" (p. 75); T. H. Huxley "tried, but ultimately failed, to avoid the errors of a social Darwinist" (p. 77).

I am far from wishing to discourage historical investigation into controversial matters like the science of race. Stepan, however, has too much confidence that the good is the true, and that she knows the good. It may be correct, and is certainly a fair argument, that sociobiology is simplistic, or the IQ concept deeply flawed, but these ideas cannot be dismissed merely by being categorized as relics of an outdated tradition. Stepan has made a real contribution toward a history of British thought on one of the most elusive concepts of the 19th-century scientific vocabulary, race. If she wishes also to refute modern proponents of race inequalities, she should address their arguments fully and explicitly.

THEODORE M. PORTER

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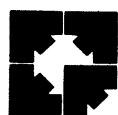
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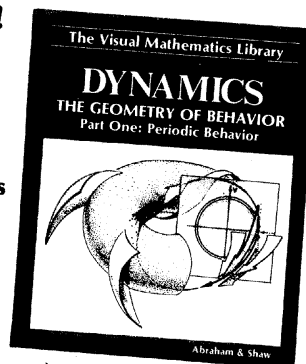
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(Continued from page 283)

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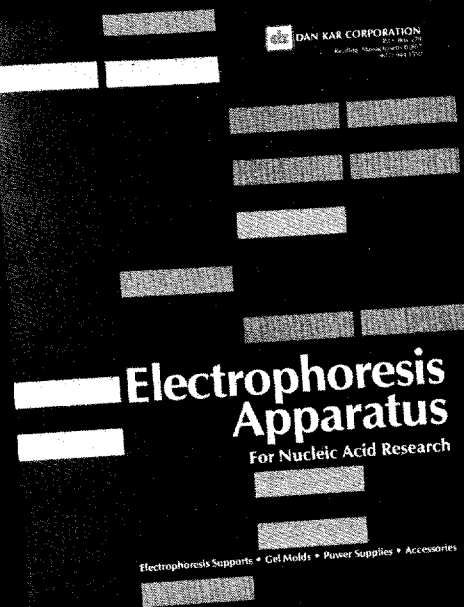
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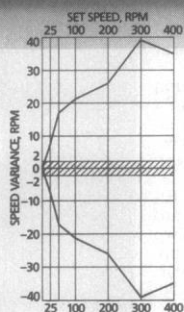
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19 November issue (mailed 12 November): **29 October**  
26 November issue (mailed 19 November): **5 November**

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

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Blind ad replies should be addressed as follows:

Box (give number)  
**SCIENCE**  
1515 Massachusetts Avenue, NW  
Washington, D.C. 20005

### POSITIONS WANTED

**Academic Physician/Scientist, Ph.D., M.D., ABIM,** medical oncologist, cell biologist. Would like to combine bench research with clinical medicine. Wants position which will use talents and training to fullest. Willing to join active group or develop independent program in academia, industry, practice, or other situation. Box 279, SCIENCE. X

**Anatomist, Ph.D.,** 9 years of teaching medical gross anatomy and embryology. Some experience teaching histology. Postdoctoral research experience. Cell culture-oriented research with focus on pulmonary cell biology (NIH grant). Seeks academic position. Box 275, SCIENCE. X

**Multidisciplinary Electronics Engineer,** three degrees, 70 publications, U.S. citizen with 20 years of microwave, telecommunications, biomedical European experience in governmental/industrial research and international consulting; seeks North American position. Current research interest in biomedical, biomechanical topics. M. Brady, Box 154 Vinderen, Oslo 3, Norway; telephone (47 2) 148274. 10/15, 22, 29; 11/5, 12

**Immunologist/Biochemist, M.A. 1980.** Six years of research experience in murine immunogenetics, biochemistry, and hybridoma technology. Skills include T and B cell differentiation assays, fractionation of lymphocyte subpopulations by numerous procedures, and electrophoresis of radiolabeled cellular proteins. Several publications. Seeks industrial position in San Diego. Box 278, SCIENCE. 10/15, 22

**Programmer, B.S. physics;** 15 years of online laboratory computer experience in life/physical sciences. Familiar with data acquisition, instrument interfacing, signal processing, and graphics systems. Seeks major system or project responsibility in academic or industrial laboratory. Box 249, SCIENCE. X



## POSITIONS OPEN

### ANATOMY FACULTY POSITIONS

Applications are invited for tenure-track faculty positions in the areas of cell motility, cell surface, neurobiology, or cellular aspects of development. One position will be at the assistant professor level and the other will be at the assistant or associate level. Applicants are invited to submit curriculum vitae, statement of research interests, and three letters of recommendation by 15 December 1982 to: **Dr. David R. Burgess, Department of Anatomy and Cell Biology (R-124), University of Miami School of Medicine, Miami, Florida 33101. Equal Opportunity/Affirmative Action Employer.**

Applications are requested for a tenure-track position at the **ASSISTANT PROFESSOR** level (11-month appointment) in the Department of Botany and Plant Sciences, College of Natural and Agricultural Sciences, University of California, Riverside, with concurrent appointment in the California Agricultural Experiment Station. A Ph.D. is required; postdoctoral experience is preferred, but all qualified candidates will be considered. The successful candidate, with a Ph.D. or postdoctoral training in the physiology of plant development and/or plant biochemistry, will be expected to develop a vigorous, innovative, independent research program, with major emphasis on plant development, maturation, or senescence. Teaching responsibilities will include courses at both undergraduate and/or graduate levels and supervision of graduate students.

Send curriculum vitae and official transcripts, and arrange to have at least three letters of recommendation sent to: **Dr. William W. Thomson, Chairman, Plant Physiologist Search Committee, Department of Botany and Plant Sciences, University of California, Riverside, Calif. 92521.** Application deadline is 1 January 1983 or later if a suitable applicant has not been selected by this date.

*An Affirmative Action/Equal Opportunity Employer*

A tenure-track **ASSISTANT PROFESSORSHIP** is available for a Ph.D. biomedical chemist with postdoctoral experience. Applicants from all areas of biomedical chemistry, including analytical chemistry, will be considered. A commitment to excellence in research and teaching is essential. Applications will be accepted until 1 November 1982 or until the position is filled. Contact: **Dr. Arthur D. Broom, Chairman, Department of Medicinal Chemistry, College of Pharmacy, University of Utah, Salt Lake City, Utah 84112. Telephone: 801-581-7063. The University of Utah is an Equal Opportunity/Affirmative Action Employer.**

**ASSISTANT OR ASSOCIATE PROFESSOR OF ANATOMY.** The Department of Anatomy, The Ohio State University, is seeking exceptional candidates to fill two tenure-track positions. Applicants should have a Ph.D. or M.D. degree and a minimum of 2 years of postdoctoral experience. A successful candidate must have a strong record of scientific accomplishments and the ability to develop an independent research program. The department has an established program of research in neurobiology and is committed to forming a strong research group in developmental biology/aging biology. Preference will be given to candidates with research expertise in cellular biology and quantitative morphology. Additional responsibilities include collaborative research and teaching of both professional and graduate students. Curriculum vitae and three letters of recommendation should be sent by 1 January 1983 to: **James S. King, Ph.D., Professor and Chairman, The Ohio State University, Department of Anatomy, 4066 Graves Hall, 333 West 10 Avenue, Columbus, Ohio 43210. The Ohio State University is an Equal Opportunity Employer.**

Educational institution seeks the professional services of a doctor in philosophy to fill position of **ASSISTANT PROFESSOR OF ANTHROPOLOGY.** Duties: teaching, research, participation in university government. Must teach classes to undergraduate and graduate students, academic counseling, supervision of graduate research, conducting independent research and publication thereof. Courses to be taught: cultural anthropology, anthropology of women and men, semiotics of culture, senior synthesis African worlds, symbolic anthropology, anthropology of power structures, and development of anthropological theory. Research in social and political organization and semiotics of sub-Saharan African societies. Minimum education of a doctor of philosophy, 7 years of academic training, and at least one year of experience in ethnographic field experience. Salary of \$17,650 per year. Contact: **Louisiana Office of Employment Security, 617 St. Charles Avenue, New Orleans, La. 70130. Job order number 468631.**

15 OCTOBER 1982

# NATIONAL UNIVERSITY OF SINGAPORE

## FACULTY OF MEDICINE

### SENIOR TEACHING APPOINTMENT IN DIAGNOSTIC RADIOLOGY

Applications are invited for a senior teaching appointment in the newly established Department of Diagnostic Radiology. Candidates should possess a basic medical degree and relevant higher academic and professional qualifications, together with teaching and research experience. The successful candidate is expected to head the department which will have an establishment of five (5) academic staff. He is likely to be appointed at professorial or associate professorial level, depending on qualifications, seniority and experience. The successful candidate is expected to have expertise in the various aspects of clinical diagnostic radiology, including ultrasonography and C T scanning.

### DEPARTMENT OF PATHOLOGY

Applications are invited for teaching appointments ranging from lectureship to associate professorship in the Department of Pathology. Candidates should possess a basic medical degree and relevant higher academic and professional qualifications together with teaching and research experience.

Gross annual emoluments range as follows:

LECTURER .....	S\$27,510- 57,040
SENIOR LECTURER .....	S\$51,670- 84,500
ASSOCIATE PROFESSOR .....	S\$74,030-101,970
PROFESSOR .....	S\$91,490-141,780

(U.S.\$1.00 = S\$2.15 approximately)

Commencing salary is commensurate with candidate's qualifications, experience and level of appointment. In addition, appointees with a basic medical degree and relevant higher academic and professional qualifications may opt to retain consultation fees up to equivalent of 60% of annual gross salary in any one (1) year, or to receive a fixed annual clinical allowance as follows:

LECTURER .....	S\$4,200- 5,400
SENIOR LECTURER .....	S\$9,000
ASSOCIATE PROFESSOR .....	S\$15,000
PROFESSOR .....	S\$24,000-36,000

Under the University's Academic Staff Provident Fund Scheme, the staff member contributes at the present rate of 23% of the monthly gross salary subject to a maximum of S\$690 to the Fund, and the University contributes 22%. The sum standing to the staff member's credit in the Fund may be withdrawn upon departure from Singapore and Malaysia permanently. Other benefits include: leave, medical care, settling-in grant of S\$1,000-2,000, children's education allowance up to S\$12,000 p.a., housing at subsidized rentals of S\$100-216 p.m., passages, baggage allowance for transportation of personal effects to Singapore.

Application forms and further information on terms and conditions of service may be obtained from:

**MR. PETER LIM, Director**  
North America Office  
**NATIONAL UNIVERSITY OF SINGAPORE**  
61 West 62nd Street . . . Suite 4J  
New York, New York 10023 USA  
Tel: (212) 765-1670

or: **THE DIRECTOR**  
Personnel Department  
**NATIONAL UNIVERSITY OF SINGAPORE**  
Kent Ridge, Singapore 0511  
Republic of Singapore

**MARINE BIOLOGICAL LABORATORY**  
Woods Hole, Massachusetts



**Optical Microscopy and Imaging  
in the Biomedical Sciences  
December 12-17, 1982**

This one-week concentrated program includes both theory and practice of the fundamentals of optical microscopy and photomicrography. Special emphasis will be given to the newest methods of cine and television recording as used in modern biomedical research. Participation will enable the student to obtain and interpret microscopic images of high quality, to perform a variety of optical measurements, and to document their research with photomicrographs and video recordings of high quality. The course is designed for research scientists and physicians, postdoctoral trainees, and advanced graduate students in the biomedical sciences. It also may be of benefit to faculty desiring to develop university courses on similar topics and non-biologists with experience in microscopy. Attendance will be limited to 16 students. The Instructor in Chief will be Robert Day Allen of Dartmouth College, who will be assisted by Nina S. Allen, also of Dartmouth, and D. Lansing Taylor of Carnegie-Mellon University.

For further information on course content and application materials, contact the Admissions Office, Marine Biological Laboratory, Woods Hole, Massachusetts 02543; telephone (617) 548-3705.

MBL is an Equal Opportunity Institution.

## MOLECULAR BIOLOGIST

An immediate opportunity exists in St. Louis for a molecular biologist at the BS or MS levels with 1-5 years experience in nucleic acids research. Successful candidate will have experience with DNA isolations, sequencing, hybridization and gene cloning techniques. Ability to work independently as well as in an interdisciplinary environment essential. Qualified individuals should submit resume to:

**Mr. J. John Heithaus**  
Personnel & Employment  
Supervisor  
Monsanto Research Division, O3H  
800 North Lindbergh Boulevard  
St. Louis, Mo. 63167

**Monsanto**

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## POSITIONS OPEN

### ASSISTANT PROFESSOR

The Genetics Department solicits applications from candidates for one junior faculty level position. Candidates should have a doctoral degree and post-doctoral experience with specialization in the area of retrovirus molecular biology and genetics. In addition to establishing an independent research program, the successful candidate will have the opportunity to participate part-time in a funded program concerning the role of endogenous viruses in chemically induced tumors. Biannual participation in teaching graduate-level virology will also be expected. Salary commensurate with qualifications.

Send curriculum vitae, publication list, references, and a brief research summary to: **Chairman, Department of Genetics, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York 10461. An Equal Opportunity Employer.**

**ASSISTANT OR ASSOCIATE PROFESSOR, OHIO UNIVERSITY.** The Section of Anatomy and Developmental Biology seeks to fill a tenure-track position with a cell biologist or neurobiologist who has a strong research orientation. Muscle biology and functional morphology are the other areas of research strength in the section. This will be a joint appointment in the College of Osteopathic Medicine and in the Department of Zoology and Microbiology. Teaching duties will include participation in the gross anatomy course for osteopathic medical or physical therapy students and a graduate course in the Department of Zoology and Microbiology, Ph.D. and postdoctoral experience are required; prior medical or dental school teaching experience is highly desirable. Salary is competitive; start-up funds are available; campus location is attractive. Earliest starting date is 1 July 1983. Send curriculum vitae, including a statement of research and teaching interests and the names of three references, before 1 January 1983 to: **Dr. Joseph Eastman, Chairperson, Anatomist Search Committee, Ohio University, College of Osteopathic Medicine, Irvine Hall, Athens, Ohio 45701. Telephone: 614-594-6401. Ohio University is an Affirmative Action/Equal Opportunity Employer.**

The G. W. C. Whiting School of Engineering of The Johns Hopkins University invites applications for a tenure-track appointment in **ENVIRONMENTAL ENGINEERING** at the **ASSISTANT OR ASSOCIATE PROFESSOR** level in the Department of Geography and Environmental Engineering. Responsibilities involve participation in and supervision of research and graduate and undergraduate teaching. Candidates should have research interests in biological or chemical processes in water and wastewater treatment systems and in natural waters. Applicants should send a resume and the names of three referees by 1 December 1982 to: **Professor M. Gordon Wolman, Department of Geography and Environmental Engineering, The Johns Hopkins University, Baltimore, Md. 21218. The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.**

**BIOENGINEERING/ELECTRICAL ENGINEERING, UNIVERSITY OF UTAH.** Applications are invited for a joint tenure-track position in the Departments of Bioengineering and Electrical Engineering. Applicant should have an earned doctorate. The appointee will teach courses in both bioengineering and electrical engineering and is expected to conduct an outstanding independent program of research. Send curriculum vitae, three recent publications, and the names of three references to: **Dr. Carl Durney, Chairman, Search Committee, Electrical Engineering Department, University of Utah, Salt Lake City, Utah 84112. Applications will be screened 31 December 1982. An Equal Opportunity Employer.**

**NEUROPHYSIOLOGIST, ASSISTANT OR ASSOCIATE PROFESSOR.** Applications are invited for a tenure-track position involving participation in the neural systems and physiology courses for osteopathic medical students and in the graduate curriculum of the Department of Zoology and Microbiology. A strong research orientation is required in the area of cellular neurophysiology. Start-up funds are available. A Ph.D. degree and postdoctoral experience are required; prior medical or dental school teaching experience is highly desirable. Salary is competitive; campus location is attractive. Earliest starting date is 1 July 1983. Send curriculum vitae, including a statement of teaching and research interests and the names of three references, before 1 January 1983 to: **Dr. Walter J. Costello, Chairperson, Neurophysiologist Search Committee, Ohio University, College of Osteopathic Medicine, Irvine Hall, Athens, Ohio 45701. Ohio University is an Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

**ASSISTANT OR ASSOCIATE PROFESSOR OF MICROBIOLOGY.** Applications or nominations are invited for a tenure-track position. Ability to establish a strong program in molecular aspects of virulence using genetic approaches and recombinant DNA technology is expected. Teaching responsibility will be in pathogenic microbiology. Opportunity to cooperate in ongoing programs in molecular and environmental research. Postdoctoral experience required; salary is competitive, commensurate with experience. Applicant should submit curriculum vitae and the names of five references by 15 December 1982 to: **Dr. Ronald Weiner, Chairman Search Committee, Department of Microbiology, University of Maryland, College Park, Maryland 20742. Equal Opportunity/Affirmative Action Employer.**

**ASSISTANT PROFESSOR, Orthopaedic Research Laboratory,** Division of Orthopaedics, University of North Carolina School of Medicine, Chapel Hill, N.C. Position available immediately. Minimum requirements include specialized training in one of four fields: biomechanics (advanced degree in engineering); biochemistry of bone (Ph.D.); biochemistry of cartilage (Ph.D.); or histomorphometry and ultrastructure of hard tissue (Ph.D.). Will be expected to develop a research program in one of above areas, and participate in education of students and residents. Voluntary participation in clinical research programs. Expected to seek outside research support. Salary negotiable. Submit curriculum vitae, bibliography, and references to: **Roy V. Talmage, Ph.D., Director, Orthopaedic Research, University of North Carolina School of Medicine, Chapel Hill, N.C. 27514. The University of North Carolina is an Equal Opportunity/Affirmative Action Employer and is keenly interested in attracting outstanding women and minorities.**

### ASSISTANT PROFESSOR OF PHYSIOLOGY

Applications are invited for a full-time, tenure-track position in the Department of Physiology. Outstanding candidates with a Ph.D. or M.D. degree, at least 2 years of postdoctoral experience, and a strong commitment to developing an independent research program of high quality are sought. Applicants whose primary research interest lies in the study of **neural systems** at the cellular or information processing level are preferred. Responsibilities include participation in the departmental teaching of medical and graduate students. Send summary of research plans, curriculum vitae, and names of three references to: **Dr. Rodney A. Rhoades, Professor and Chairman, Department of Physiology, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, Indiana 46223, by 30 November 1982. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

**ASSOCIATE PROFESSOR.** The Department of Physiology, Uniformed Services University of the Health Sciences (USUHS), Bethesda, Maryland, is seeking applicants for an associate professor of physiology. Candidates must have extensive experience in teaching medical and graduate students in cardiovascular physiology. The applicant, preferably an M.D., should be a recognized scientist with extensive knowledge and substantial achievements in heart, coronary, and metabolic cardiovascular research. A strong, independent, ongoing research program in cardiovascular physiology and biochemistry is required. Applications should be forwarded to: **Civilian Personnel/Manpower, USUHS, 4301 Jones Bridge Road, Bethesda, Maryland 20814. Attention: Chairman, Department of Physiology. Applications will not be returned. The USUHS is an Equal Opportunity/Affirmative Action Employer.**

**BIOCHEMIST:** The Department of Chemistry at the University of Oklahoma has an opening for a permanent faculty member in biochemistry. Minimum qualifications for applicants include a Ph.D. in biochemistry or chemistry and excellent credentials in, as well as a strong commitment to, both research and teaching in biochemistry. The successful applicant will be expected to teach at both the undergraduate and graduate level and to maintain an active research program. Depending on background and experience, the appointment could be made at the rank of professor, associate professor, or assistant professor. *Minority candidates are most strongly encouraged to apply.* Applicants should submit a complete resume, including research and teaching experience, future research plans, and any other supporting material, and have at least three letters of reference sent to: **Dr. Bruce Roe, Department of Chemistry, University of Oklahoma, 620 Parrington Oval, Norman, Oklahoma 73019. Applications must be postmarked by 15 November 1982. The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.**

**MACQUARIE UNIVERSITY  
SYDNEY, AUSTRALIA  
SCHOOL OF BIOLOGICAL SCIENCES  
CHAIRS OF BIOLOGY**

Applications are invited for appointment to **TWO CHAIRS OF BIOLOGY**, one of which is tenable not before 1 January 1984. The University is seeking applicants who will guide teaching and research in an integrated, multidisciplinary school which has a non-departmental structure. Presently the school has an academic staff of 33.

The preferred fields for the chairs are in molecular biology and developmental biology but applications from biologists of academic excellence with interests relevant to any of the areas of present research activity in the school will be seriously considered. A list of current research activities and information about research facilities is available on request.

The present chairs of biology are held by Professor F. L. Milthorpe who will retire at the end of 1982 and Professor G. B. Sharman, the current head of school. Professor F. V. Mercer (the school's founding professor) retired at the end of 1981.

The University reserves the right to fill any position by invitation.

The salary for each of the chairs will be A\$43,904 per annum, plus 7 percent, subject to government acceptance of recommendations of the Academic Salaries Tribunal.

Further information about the University and advice regarding the method of application should be obtained from: **The Secretary-General, Association of Commonwealth Universities, 36 Gordon Square, London, WC1H 0PF, England**, or from: **The Registrar, Macquarie University, North Ryde, New South Wales, 2113, Australia**.

Applications close on 10 December 1982.

# Pharmaceutical Research Scientists

Schering-Plough's continued expansion and commitment to innovative research have made available a number of positions for creative Scientists seeking personal and professional growth.

experience is highly desirable. The candidate must have demonstrated scientific leadership capabilities.

## FORMULATION RESEARCH:

Sr./Principal Scientist with PhD or equivalent in pharmaceuticals. 0-5 years experience in polymer pharmaceutical dosage forms design. Exposure to novel drug delivery systems would be helpful. The successful candidate will be involved in the exciting area of interferon formulations and sterile products.

## FORMULATION RESEARCH:

Sr. Scientist-Successful candidate would possess PhD or equivalent in pharmaceutical sciences. 0-3 years experience in topicals/liquids/aerosols formulations development. Responsibilities include formulations of new dosage forms, conducting appropriate testing, monitoring stability studies and supervision of one or two scientific personnel.

## BIOCHEMIST/BIOCHEMICAL IMMUNOLOGIST:

Sr./Principal Scientist. Our Research Department is seeking (2) candidates with a minimum of 2 years postdoctoral experience or equivalent in the biochemistry of Arachidonic acid and/or phospholipid metabolism in mammalian cells. Alternatively, experience in biochemical regulations of cells of the immune system. Tissue culture

## ORGANIC/MICROBIAL

**CHEMIST:** Sr. Scientist position is currently available for a PhD or equivalent. Organic Chemist with 0-5 years experience in natural product chemistry in our Microbiology Department. Candidates must possess a thorough knowledge of isolation, purification, structural identification and analytical data interpretation (NMR, Mass Spec, HPLC, etc.) of novel antibiotics from fermentation fluids. Candidates should be interested in developing new methodologies.

## MOLECULAR BIOLOGIST:

An exceptional career opportunity is now available in our Department of Molecular Biology. We are seeking a Sr. Scientist, PhD with post-doctoral or equivalent experience. Requirements for this position include a proficiency in recombinant DNA methodology and proven experience in the area of gene expression in prokaryotic systems.

All positions offer attractive starting salaries and comprehensive company benefits.

Qualified candidates should forward resume, specifying position desired, to: Louis DeMartino, Box S100, Schering-Plough Pharmaceutical Research Division, 60 Orange Street, Bloomfield, New Jersey 07003.



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Women, Minorities, Handicapped & Veterans  
Are Strongly Encouraged To Apply

## DIRECTOR OF CNS CLINICAL RESEARCH

LOREX Pharmaceuticals, a newly formed joint venture between Searle Pharmaceuticals and Synthelabo, a well respected French pharmaceutical firm, has an exciting opportunity available for a physician to direct activities in the CNS research area. The position is located in Skokie, Illinois.

The qualified candidate will be responsible for planning and coordinating clinical research programs, phases 2-4, with innovative CNS active compounds. This includes the design and implementation of clinical trials and the reporting of results, as well as directing staff in the securing of clinical data to be used in the preparation of submission of new drug applications.

To be considered for this position candidates must possess an M.D. degree and at least 4 years of post graduate training in the neurosciences. The ideal candidate will be research oriented, well versed in neuropharmacology and familiar with clinical trial methodology.

In return for the above credentials, LOREX can offer an attractive salary and benefit package, as well as challenging and rewarding career opportunities.

To be considered for this position, please submit your resume with salary history and expectations. All replies will be held in strictest confidence.

Submissions should be sent to:

**Fred Arndt**

**Searle Laboratories**

*Division of Searle Pharmaceuticals, Inc.*

Box 5110 / Chicago, IL 60680

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Not Just A Policy*



## COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES UNIVERSITY OF CALIFORNIA, DAVIS

Inquiries are invited from qualified applicants for **FACULTY POSITIONS** (tenure track) available in these areas:

**ASSISTANT PROFESSOR, ASSISTANT VITICULTURIST**, to do research in grapevine physiology at the cellular, organ, or plant level. Apply to: **W. M. Kliewer, Department of Viticulture and Enology**, by 1 March 1983. Position available July 1983.

**ASSISTANT PROFESSOR** in innovative applications of reproductive physiology to domestic animal improvement (for example, manipulation of gametes or embryonic genome). Apply to: **G. B. Anderson, Department of Animal Science**, by 15 January 1983. Position available immediately.

**ASSISTANT OR ASSOCIATE PROFESSOR**, in a plant science related to nursery crops. Apply to: **Dr. Roy M. Sachs, Department of Environmental Horticulture**, by 31 December 1982. Position available between 1 April and 1 July 1983.

**ASSISTANT PROFESSOR** in crop ecology in the areas of flower and nursery crops. Apply to: **Dr. James Harding, Department of Environmental Horticulture**, by 31 December 1982. Position available between 1 April and 1 July 1983.

These positions are to be filled at the assistant professor, 11-month salary level (unless other rank is indicated above). The positions have responsibilities for teaching, advising, and research (in the Agricultural Experiment Station). Candidates should have a Ph.D. in an appropriate field and teaching and research experience. Applicants should submit résumé, transcripts (if within 5 years of graduation), statement of research and teaching experience, list and reprints of publications, and the names and addresses of at least three persons familiar with the applicant's qualifications to individual and department as noted for position (department name), **University of California, Davis, Calif. 95616**. Please indicate the position in which you are interested. The completed application must be received by date indicated for each position. *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 Vietnam era. The University of California is an Affirmative Action/Equal Opportunity Employer.*



## EAST TENNESSEE STATE UNIVERSITY Dean, School of Public and Allied Health

The Dean is the chief executive officer of the School and will be expected, as one of his/her major responsibilities, to contribute to the development of expertise in the health care area at the University. The successful candidate will also be responsible for continued curriculum development of high quality in both undergraduate and graduate teaching programs and should be committed to the development of cooperative programs in teaching, research and service between the School of Public and Allied Health and other units of the University that are also involved in health care activities (as e.g., the Quillen-Dishner College of Medicine, the College of Nursing). Applicants should possess an earned doctorate in a discipline related to health education and health care (i.e., M.D., D.D.S., Ph.D. in a Basic Medical Science, Dr. P.H.). An applicant should possess outstanding credentials as an academician and scientist and have demonstrated administrative experience in an academic setting. Salary is commensurate with qualifications and experience.

Review of applications will begin no later than November 30, 1982 and will continue until the position is filled. Interested applicants should submit an up-to-date curriculum vitae and the names of at least three references to:

**Richard G. Skalko, Ph.D., Chairman**  
Search Committee for Dean  
School of Public and Allied Health  
P.O. Box 19960A  
East Tennessee State University  
Johnson City, TN 37614

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## RepliGen

### Research Assistants Biotechnology

*Repligen Corporation, a rapidly growing biotechnology company involved in the development of a variety of innovative protein and peptide products, has two (2) openings (MS/BS level) for Research Assistants reporting to Senior Scientists in:*

**Enzymology/Protein Chemistry**—Positions require a minimum of two years experience in at least one of the following areas:

- Enzyme purification, characterization, and assay. A knowledge of enzyme mechanisms is required.
- Peptide isolation and amino acid sequence determination.
- Solid phase synthesis of polypeptides.
- Protein secondary and tertiary structure determination.

*Successful candidates will be highly motivated individuals who can work independently and take advantage of the growth opportunities at Repligen. Repligen offers excellent salary and benefits. Qualified Research Assistants are also eligible for equity participation.*

*Submit resume, including references, to: Director of Personnel, Repligen Corporation, 101 Binney Street, Cambridge, MA 02142. An equal opportunity employer.*

## POSITIONS OPEN

**BIOCHEMIST:** The Chemistry Department at the University of Maryland, College Park, invites applications for a **FACULTY POSITION** to begin fall 1983. Appointment is intended at the assistant professor level, but appointment as associate professor will be considered for a candidate with an outstanding record of accomplishment. Preference will be given to candidates with research interests in molecular biology and recombinant DNA, but excellent individuals in other areas of biochemistry will be considered. Postdoctoral experience and demonstrated potential for excellence in research required. For full consideration, complete applications should be received 1 December 1982. Send curriculum vitae, a statement of research objectives, at least three letters of reference, and any other relevant supporting material to: **Dr. A. T. Campagnoni, Chairman, Biochemist Search Committee, Department of Chemistry, University of Maryland, College Park, Md. 20742. The University of Maryland is an Equal Opportunity/Affirmative Action Employer.**

**BIOCHEMISTRY FACULTY POSITION.** Full-time, tenure-track teaching and research position in the Department of Physiological Chemistry, College of Medicine, The Ohio State University. Candidates should hold a Ph.D. or M.D., have a minimum of 2 years of postdoctoral research experience, and show clear potential to sustain a viable, independent research program. Send curriculum vitae, names of three references, and a statement of research plans to: **Search Committee, Department of Physiological Chemistry, 5166 Graves Hall, The Ohio State University, Columbus, Ohio 43210.**

The Department of Psychology at the University of Texas at Austin has a tenure-track position available for a **BIOPSYCHOLOGIST** in the area of brain mechanisms and behavior. The individual would be responsible for teaching graduate and undergraduate classes in physiological psychology and neuroscience as well as departmental service courses and would be expected to develop an independent program of research. The position is open at the assistant professor level, but others will be considered. Please send curriculum vitae, three letters of recommendation, and publications to: **BIOPSYCHOLOGY SEARCH COMMITTEE (ATTENTION: MICHAEL DOMJAN), DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF TEXAS AT AUSTIN, AUSTIN, TEXAS 78712. An Equal Opportunity/Affirmative Action Employer.**

### POSITION IN CELL BIOLOGY DEPARTMENT OF ZOOLOGY UNIVERSITY OF CALIFORNIA, BERKELEY

Applications are invited, pending budgetary approval, for an opening at the level of **assistant professor**. The research and teaching interests of the candidate should be in **cell recognition**. Preference will be given to those interested in cellular interactions in developing systems, and/or in neuronal specificity. Possible areas of specialization include cell-surface specializations, protistan cell-cell recognition, cell mobility, interactions with extracellular matrix, growth cone guidance, selective synaptogenesis, effectors of intercellular communication, and interactions controlling growth or differentiation. Teaching responsibilities will include appropriate undergraduate and graduate courses. Applicants should send curriculum vitae, bibliography with copies of publications, a summary of research and teaching objectives, and the names of three references to: **Chair Search Committee in Cell Biology, Department of Zoology, University of California, Berkeley, Calif 94720. The deadline for receiving applications is 1 January 1983.**

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

**CHAIRMAN, DEPARTMENT OF NEUROLOGY** Loyola University Medical Center is seeking an individual with recognized clinical skills and a major commitment to neuroscience research to chair its Department of Neurology. The Medical Center is a 12-year-old private academic institution situated in the western suburbs of Chicago. The 550-bed university hospital recently has added a large outpatient facility and plans further expansion. It interfaces at all levels with the Hines VA Hospital, a 1200-bed facility adjacent to the Medical Center, which provides excellent research and grant opportunities. Interested candidates should contact: **O. Howard Reichman, M.D., Professor and Chief, Division of Neurological Surgery, Loyola University Medical Center, 2160 South First Avenue, Maywood, IL 60153.**

# RESEARCH OPPORTUNITIES

## PhD's in Microbiology/Chemical Engineering

Schering-Plough, a multi-national, research-oriented manufacturer of fine pharmaceutical and consumer products, has excellent opportunities in our U.S. Pharmaceutical Research Division. Our current excursion into several new and exciting fields is providing opportunities for highly skilled Scientists.

Our Union, New Jersey facility, will direct the administrative and scientific operations of the R&D laboratory in Manati, Puerto Rico and domestically coordinate and manage research in all aspects of Bioengineering Sciences related to antibiotic, steroid and industrial fermentations.

### ASSOCIATE DIRECTOR MICROBIOLOGICAL DEVELOPMENT

We are seeking a PhD in Microbiology or Biochemical Engineering with 8-10 years experience in R&D operations related to fermentation process development. The successful candidate, supervising a staff of sixteen professionals, will plan, coordinate, supervise and direct the research efforts related to the development and improvement of all offshore fermentation facilities owned or operated by the company. This position, based at

### SECTION LEADER BIOENGINEERING

We are seeking a PhD in Biochemical Engineering with 3-5 years industrial experience in fermentation. The successful candidate, supervising a staff of 3 scientific and 2-3 technicians, will develop, plan and coordinate Bioengineering programs to satisfy company needs in the development and/or improvement of new or existing fermentation process in domestic and offshore operations.

We offer an excellent starting salary based on background and qualifications and a comprehensive program of company benefits.

Qualified, interested candidates are requested to submit a detailed resume, in strict confidence, with salary history and requirements, indicating position desired, to: Mr. Richard Partl, Schering-Plough Corporation, 1011 Morris Avenue, Union, New Jersey 07083.



## Schering-Plough

We Are An Equal Opportunity Employer M/F

## POSITIONS OPEN

### UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

#### Keck Chair of Geological Sciences

The Department of Geological Sciences invites nominations and applications for the W. M. Keck Foundation Professorship in the Geological Sciences. We are seeking a geoscientist with a proven and distinguished record of research and teaching in any area of geology or geophysics. Preference will be given to candidates whose research is in structural geology or combines structure and geophysics.

The appointment is expected to be made by September 1983, and résumés, nominations, and letters of inquiry will be accepted until the chair is filled. Salary will be commensurate with the candidate's qualifications and experience.

USC is an Equal Opportunity/Affirmative Action Employer.

Contact:

Dr. Robert G. Douglas  
Chairman  
Department of Geological Sciences/SCI 165  
University of Southern California  
University Park-MS 0741  
Los Angeles, Calif. 90089-0741

#### CHAIRMAN, DEPARTMENT OF CARDIOVASCULAR RESEARCH

The Cleveland Clinic Foundation is seeking Ph.D. and/or M.D. applicants for the chairmanship of the Department of Cardiovascular Research in the Division of Research. The existing department has four major research areas: namely atherosclerosis, hypertension, neurobiology, and thrombosis. Although each research program has specific scientific goals, multiple opportunities for interprogram cooperation as well as close association with clinical scientists occur. Applicants should have appropriate professional and administrative leadership skills. Opportunities are available for development of new programs and collaboration between clinical and basic research. Reply to: W. M. Michener, M.D., Chairman, Division of Education, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio 44106.

**CHAIRPERSON, DEPARTMENT OF PHARMACOLOGY.** Applications are invited for the position of chairperson of the Department of Pharmacology, University of Washington, School of Medicine. Applicants should have extensive research and teaching experience relative to pharmacology, and should have demonstrated leadership ability appropriate to heading up a strong department. Applications, including complete curriculum vitae and the names of three persons who may be contacted for references, should be sent no later than 1 December 1982 to: Dr. John C. Sherris, Department of Pharmacology Search Committee, Department of Microbiology and Immunology SC-42, University of Washington, Seattle, Wash. 98195.

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

#### DIRECTOR BIOMEDICAL ENGINEERING

Position available for individual with Ph.D. and/or M.D. who has at least one engineering degree. Position offers challenge and opportunity to expand biomedical engineering research program involving the University, area hospitals, and the medical school. It is desirable that applicants have experience in biomedical engineering research and teaching.

The University of Akron, the third largest state university in Ohio, is located within a culturally rich region of concentrated industrial and research activities as well as outstanding health care facilities.

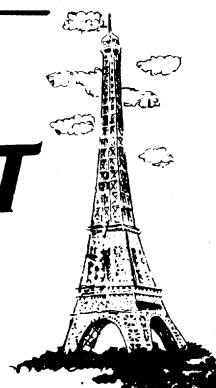
Salary is competitive, fringe benefits are outstanding, and housing is attractively priced.

Send résumé and names of three references by 15 November 1982 to:

Dean Louis A. Hill Jr.  
College of Engineering  
The University of Akron  
Akron, Ohio 44325

All materials, including letters from references, transcripts, and so forth will be considered for the position available as early as January 1983. The University of Akron is an Equal Education/Employment Institution.

# SR. RESEARCH MICROBIOLOGIST PARIS, FRANCE



A French beverage company is currently seeking a Senior Microbiologist to plan and conduct research work on flavor quality during fermentation of fruit and other substrates, at its Research Center near Paris.

Qualifications required include:

- PhD in Microbiology or Biochemistry
- 5 or more years of postdoctoral experience in yeast, genetic or biochemistry and fermentation technology
- Demonstrated ability to conduct research and publish results

This is a highly desirable opportunity offering a competitive salary and an excellent working environment.

All replies will be treated in strictest confidence.

Send detailed resume to:

Box 280, SCIENCE

## MEDICAL - SCIENTIFIC EDITOR/ADMINISTRATOR

Mayo Clinic seeks a professional with medical-scientific editing skills and administrative experience to head a large editorial department. Responsibilities include basic manuscript editing, consultation with authors, teaching, and administration of the department. Solid editorial skills are essential but so is the ability to stimulate, motivate, and guide the editorial staff as well as to provide leadership for editor colleagues. An advanced degree in medical or scientific discipline would be highly desirable but would not replace strong writing and editing qualifications and administrative experience.

Mayo Clinic with 800 staff physicians, 800 physicians in residency training program, 700 students and other allied health educational programs, and 5500 paramedical personnel provides an exciting environment for the professional in this position. Mayo also provides an attractive compensation package including an outstanding personal security and benefits program.

Mayo Clinic is located in a unique community of 60,000 persons, 85 miles south of Minneapolis/St. Paul via 4-lane freeway.

Interested and qualified candidates should send a resume and other pertinent material to:



F. W. Iossi  
Division of Education  
Mayo Foundation  
200 1st Street S.W.  
Rochester, Minnesota 55905  
We Are An Equal Opportunity Employer

## POSITIONS OPEN

### COMPARATIVE BIOCHEMIST ASSISTANT PROFESSOR—FALL 1983

Applicants should have demonstrated research productivity and training in biochemical approaches to comparative physiology at the cellular or molecular level. Teaching duties will be an undergraduate course in comparative physiology, a graduate course in the area of research expertise, and participation in a team-taught introductory course in cell biology and physiology. Development of an active research program involving graduate research training is also required. Applicants must possess the Ph.D. or equivalent degree, and postdoctoral training is preferred. Applicants should send a letter describing their research plans, current curriculum vitae, and the names and addresses of four references to: **Dr. S. K. Pierce, Chairman of the Search Committee, Department of Zoology, University of Maryland, College Park, Md. 20742**, no later than 1 January 1983. *Affirmative Action/Equal Opportunity Employer.*

### DIRECTOR, CORNELL UNIVERSITY BOTANICAL GARDEN

Director of arboretum, botanical garden, and natural areas of Cornell University. Application deadline: 15 December 1982. For description/requirements, write **Cornell Plantations, One Plantations Road, Ithaca, N.Y. 14850**, or telephone: **607-256-3020**. *Cornell University is an Equal Opportunity/Affirmative Action Employer.*

### ECOLOGY/PHYSIOLOGY/CELL BIOLOGY

The Department of Botany, Louisiana State University (LSU), invites applications for two tenure-track positions expected for August 1983, in ecology (particularly pollination, population, or theoretical) and physiology/cell biology (particularly cell culture, bioenergetics, or ultrastructure). A Ph.D. before appointment and evidence of creative research and quality in teaching are required. Responsibilities include teaching introductory and specialty courses, and developing an active research program. Applications submitted by 22 November 1982 will receive preference.

Send résumé, names and addresses of three references, and a brief statement of research goals to: **Search Committee, Department of Botany, LSU, Baton Rouge, La. 70803-1705**.

*LSU is an Equal Opportunity/Affirmative Action Employer.*

**JOINT APPOINTMENT IN ENVIRONMENTAL STUDIES AND GEOGRAPHY.** Position available at the University of California, Santa Barbara, effective 1 July 1983 for a physical geographer or physical scientist with an interest in environmental studies applications. Assistant professor preferred; tenure-track position. Exceptionally well qualified persons whose background and experience warrant a tenure level appointment are also encouraged to apply. Ph.D. will normally be required prior to appointment. Evidence of research and teaching interests in topics such as soils, hydrology, biogeography, climatology, and meteorology required. Interest in mathematical or computer modeling also desirable. Applicants to send curriculum vitae and names of three referees to: **Professor Kristin Shrader-Frechette, Environmental Studies Program, University of California, Santa Barbara, Calif. 93106**. Closing date: 31 December 1982. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

**DEPARTMENT HEAD.** The Department of Chemistry of the University of Arizona invites applications and nominations for the position of professor and department head. We are seeking an outstanding scientist and experienced educator with the leadership ability to move a strong department to a position of national stature. Appointment begins fall 1983. Contact: **Dr. M. Barfield, Chairman, Search Committee, Chemistry Department, University of Arizona, Tucson, Arizona 85721**; telephone: **602-626-3465**. *An Equal Opportunity/Affirmative Action Employer.*

The University of Southern California (USC) is seeking applicants for the position of **HEAD OF DIVISION OF EXPERIMENTAL RADIOTHERAPY AND AN ASSOCIATE**. Candidates should qualify for full academic appointment. All inquiries to:

**Zbigniew Petrovich, M.D.  
Head of Radiation Oncology  
USC School of Medicine  
Southern California Cancer Center  
1414 South Hope Street  
Los Angeles, California 90015  
Telephone: 213-749-8717**

## POSITIONS OPEN

Full-time **FACULTY MEMBERS** for established Department of Pathology. Administrative responsibility as director of laboratory operations within the Department of Pathology and the University of California Davis Medical Center, Sacramento. Rank, title, and salary competitive and commensurate with credentials. Applicant must hold the M.D. degree and have Board-certification in anatomic and clinical pathology. Postdoctoral fellowship training in an area of basic research appropriate to clinical or anatomic pathology is desirable. Applicant holding the M.D. degree must be eligible for licensure in the state of California. Closing date for this position is 1 November 1982. Send curriculum vitae and five references to: **Murray B. Gardner, M.D., Chair, Department of Pathology, Room 3453, MSI-A, University of California, Davis, School of Medicine, Davis, California 95616**.

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

**VISITING FACULTY POSITION.** The University of Notre Dame is seeking candidates for a rotating visiting faculty position in the Department of Chemistry. Rank and area are open and salary is negotiable. Minimal teaching will be required. The position is primarily intended for persons with faculty positions elsewhere seeking sabbatical year support. Please send curriculum vitae and the names of three referees to: **Professor Thomas P. Fehlner, Chairman, Department of Chemistry, University of Notre Dame, Notre Dame, Ind. 46556**. *The University of Notre Dame is an Equal Opportunity Employer.*

**FACULTY POSITION IN HUMAN NUTRITION.** Rank dependent on qualifications. Person qualified for associate professor or above preferred. For tenure-track appointment, assistant professor and above, a Ph.D. in nutritional sciences or closely related field is required. We are seeking an individual with demonstrated excellence in teaching and independent research who will be involved actively in promoting the graduate program and coordinating departmental and interdepartmental nutrition research. Salary will be commensurate with qualifications. Position available 1 January 1983. Deadline for applications is 1 December 1982, or until the position is filled. Candidate should send curriculum vitae, list of publications, and three letters of recommendation to: **Dr. Neva F. Olsen, Director, School of Home Economics, Louisiana State University (LSU), Baton Rouge, La. 70803**. *LSU, LAES/Equal Opportunity Employer.*

### FACULTY POSITION IN PLANT MOLECULAR GENETICS DEPARTMENT OF BIOLOGICAL SCIENCES UNIVERSITY OF CALIFORNIA SANTA BARBARA

Applications are invited from individuals with research interests in the molecular biology of plants, emphasizing the use of modern techniques for the study of gene organization and expression in various plant cells. We anticipate that this will be a tenure-track, 9-month faculty position in the Section of Biochemistry—Molecular Biology. The successful applicant will be expected to organize a vigorous research program involving graduate students and postdoctorals. Teaching duties will include graduate and undergraduate courses on various topics in modern molecular biology.

Applicants must hold a Ph.D. degree plus postdoctoral experience in the field. Appointment will probably be at the assistant professor level, although applications from more senior individuals will also be considered. Submit curriculum vitae, brief summaries of previous and projected research, and the names of at least three scientists familiar with your work to: **The Chairman, Department of Biological Sciences, University of California, Santa Barbara, Santa Barbara, California 93106**.

Applications must be postmarked no later than 1 February 1983. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

**MOLECULAR GENETICS.** Assistant professor level, tenure-track position starting September 1983. Substantial training in molecular genetics required. Expected to develop vigorous research program and supervise graduate students. Teaching duties, requiring approximately 50 percent of time, include: undergraduate laboratory course in genetics and participation in graduate courses in applicant's specialty area. Send curriculum vitae, list of publications, statement of research plans, and names of four references to: **Dr. Peter Abramoff, Biology Department, Marquette University, Milwaukee, Wis. 53233**. *Marquette University is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**TWO FACULTY POSITIONS**—The Department of Biology at the University of San Diego anticipates two openings in September 1983. We are seeking a **molecular biologist** to teach molecular biology and a **geneticist—population biologist** to teach genetics, biometrics, and population biology. Applicants must have a Ph.D. in the biological sciences, be competent to teach the subjects indicated plus introductory biology courses, and be interested in establishing a research program. At least one of these openings is anticipated to be a tenure-track position. By 15 January 1983, please submit curriculum vitae and have three letters of reference sent to: **Dr. D. K. Severson, Chairman, Department of Biology, University of San Diego, Alcalá Park, San Diego, California 92110**. *The University of San Diego is a small, private, Catholic, liberal arts university and is an Equal Opportunity/Affirmative Action Employer.*

The University of Michigan, Department of Neurology, is seeking candidates for the position of **INSTRUCTOR OF NEUROLOGY**. The incumbent will be expected to engage in electrophysiological research and tissue culture preparations and will have clinical responsibilities in the Neurology Outpatient Clinic. *The University of Michigan is a nondiscriminatory, Equal Opportunity Employer.* Inquiries regarding this position should be sent to:

**Kenneth L. Casey, M.D.  
Department of Neurology  
University of Michigan Medical School  
4908 Clinical Faculty Office Building  
Box M056  
Ann Arbor, Mich. 48109**

### MOLECULAR BIOLOGY

The Department of Molecular Biology and Microbiology at Case Western Reserve University invites applications for several tenure-track faculty positions. We encourage applications from candidates with strong credentials in molecular biology, especially as applied to areas of virology and immunology. These appointments provide excellent opportunities to develop independent research programs and to teach medical and graduate students. Send curriculum vitae, a statement of research and teaching interests, and the names of four references to: **Dr. Fritz Rottman, Chairman, Department of Molecular Biology and Microbiology, Case Western Reserve University, Cleveland, Ohio 44106**. *An Equal Opportunity/Affirmative Action Employer.*

**MOLECULAR BIOLOGIST—MICROBIOLOGIST.** Assistant professor of biology, Colby College, starting 1 September 1983, to teach majors and nonmajors and to pursue research. Ph.D. required. Applicants should be broadly educated in the biological sciences, and experienced in molecular biology and microbiology. Preference may be given to those whose papers are received by 15 January 1983. Send curriculum vitae and three letters of recommendation to: **Dr. Miriam F. Bennett, Department of Biology, Colby College, Waterville, Maine 04901**. *An Equal Opportunity/Affirmative Action Employer.*

### MOLECULAR GENETICS

The Department of Molecular Biology and Genetics at Johns Hopkins University School of Medicine has positions available at the assistant professor level. Candidates of exceptional promise in research and teaching are invited to apply by submitting their curriculum vitae, a brief statement of research plans, and the names of two or three individuals who may be contacted as references to: **Dr. Thomas J. Kelly, Jr., Department of Molecular Biology and Genetics, Johns Hopkins University School of Medicine, Baltimore, Md. 21205**. *Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

**MUSEUM DIRECTOR** for established university natural history museum with major holdings in anthropology, paleontology, and zoology. Responsible for direction and promotion of research, exhibit, and public information programs. Applicants should have museum experience with demonstrated abilities in management, development, and public service. Seeking scholar with doctorate and appropriate museum research interests. Individual selected may also be appointed at associate or full professor level in appropriate academic department. Salary commensurate with experience. Address inquiries, résumés, and three letters of reference to: **Dr. Michael A. Mares, Chairperson, Search Committee, Stovall Museum, University of Oklahoma, Norman, Oklahoma 73019**, by 12 November 1982; applications received after this date may be considered. *The University of Oklahoma is an Affirmative Action/Equal Opportunity Employer.*

**THE LADY DAVIS FELLOWSHIP TRUST**  
**P.O. BOX 1255, JERUSALEM 91904, ISRAEL**  
**FELLOWSHIPS FOR STUDY, RESEARCH OR TEACHING AT**  
**GRADUATE, POST-DOCTORAL OR PROFESSORIAL LEVELS**

**in 1983 - 84**

**at the Hebrew University of Jerusalem or**  
**the Technion-Israel Institute of Technology, Haifa**

**GRADUATE AND POST-DOCTORAL**  
**FELLOWSHIPS**

**Eligibility:** Lady Davis Fellows are selected on the basis of demonstrated excellence in their studies, promise of distinction in their chosen fields of specialization and qualities of mind, intellect and character.

**Application information:** Graduate candidates may apply during their senior undergraduate year or after they have undertaken study in a graduate school. Post-doctoral candidates may apply not later than 3 years after completion of their doctoral dissertation.

The Fellowships are tenable for one year and may be renewed for a second year.

Grant is intended to defray the cost of the Fellow's travel and tuition fees and to meet reasonable living expenses.

**VISITING PROFESSORSHIPS** are intended for candidates with the rank of Full or Associate Professor at their own institution. They are tenable from one trimester (or semester) to a full academic year.

**DEADLINE:** Completed forms in all categories must reach Jerusalem not later than December 1, 1982.

Candidates, including Israelis abroad, may obtain application forms at the above address, after they indicate the category of Fellowship for which they qualify.

## Immunologists

American Cyanamid's Medical Research Division located at Lederle Laboratories is expanding research in its Inflammation & Immunology Research Department. The newly organized Cellular Immunity Group has two immediate openings for individuals possessing a Ph.D. degree, with postdoctoral experience preferred, but not required. Qualified candidates should have the following expertise:

### Cellular Immunologist

Experience and productive research in the area of T Cell Immunity (T Cell Hybridomas, Long-term T Cell Lines, T Cell Subsets, T Cell regulation, Lymphokines and/or T Cell Activation).

### Cellular Immunologist/Biochemist

Experience should include research in the biochemistry of cellular activation. Immunological background, orientation or interest is desired.

American Cyanamid offers a competitive salary and benefits package including a dental and savings plan. Please send resume including salary history to: John M. Fidler, Ph.D., Group Leader in Cellular Immunity, c/o Ms. K. McDevitt, Professional Employment Coordinator



### American Cyanamid Company

Medical Research Division  
Lederle Laboratories  
Pearl River, N.Y. 10965

An Equal Opportunity Employer m/f

## SCIENTISTS/SENIOR SCIENTISTS

### Pharmacology

Genentech, Inc., a recognized leader in recombinant DNA research and manufacturing, is seeking two highly qualified individuals to join our Pharmacology Department.

#### Sr., Scientist-Immunology

The individual who fills this position will be asked to perform experiments to evaluate clinical, cellular immunological aspects of products under development, and will develop preclinical experimental programs in animal model systems. This scientist will also collaborate in the development of vaccines and will participate in the planning of clinical trials and analysis of data.

Qualifications for the position are: a PhD or M.D. degree and 6-8 years experience with a strong academic or industrial background; experience with either pharmaceutical product development, vaccine development, or clinical trials; an outstanding record of achievement; and an ability to direct others. **(Position #S-34)**

#### Scientist/Sr. Scientist-Toxicology

The successful candidate in this position will join a group examining the potential clinical applications of human- and animal-derived peptides produced by recombinant DNA technology. This individual will be responsible for the design and management of preclinical toxicology studies, primarily involving blood products, hormones and immune modulating factors.

Qualifications are: a PhD in Pharmacology and/or Toxicology or closely related discipline, with a minimum of three years experience in implementation and monitoring of toxicology studies. Knowledge of the immune system and its reactions on mammalian physiology a must. Experience in industrial toxicology desirable. **(Position #S-301)**

These positions involve independent research and development in a team environment. We offer excellent salaries and benefits in a stimulating and challenging environment. For immediate consideration, please send your curriculum vitae and three references to **Human Resources**, referring to the appropriate **Position #**.

# Genentech, Inc.

460 Point San Bruno Boulevard  
South San Francisco, CA 94080

We are an equal opportunity employer m/f

## POSITIONS OPEN

**MOLECULAR GENETICIST**, assistant professor, tenure-track. Beginning August 1983. Ph.D. and postdoctoral or equivalent professional experience required. Duties include graduate and undergraduate teaching and research in the areas of biochemistry, genetics, and molecular biology. The individual selected will be expected to establish and obtain support for an active research program within these general areas. Preference will be given to individuals who have direct experience with recombinant DNA technology and who can contribute to the development of a biotechnology program. Illinois Institute of Technology is a midwest center for science and technology with close ties to local industry. The department offers B.S., M.S., and Ph.D. degree programs in basic and applied areas of biology. Candidates should submit curriculum vitae, including a statement of research plans, and should arrange for the transmission of three letters of recommendation by 15 November 1982 to:

**Professor Dale Webster**  
Chairman of Search Committee  
Department of Biology  
Illinois Institute of Technology (IIT)  
Chicago, Illinois 60616

*IIT is an Equal Opportunity/Affirmative Action Employer.*

## THE UNIVERSITY OF ALABAMA IN BIRMINGHAM DEPARTMENT OF PATHOLOGY

Applications are invited by the Department of Pathology for a nontenure-track position available immediately. The applicant should possess an M.D. degree, 4 years of training in general pathology, a strong background in immunopathology, and should apply this knowledge to the study of leukemias and lymphomas, immunodeficiencies, and autoimmunity. The applicant should have approximately 6 years of postdoctoral experience, demonstrated excellence in research, and an active interest in teaching. The candidate will be expected to establish and support an independent research program. Please submit complete curriculum vitae, three letters of reference, and a brief summary of future research plans by 1 November 1982 to: **Jack C. Geer, M.D., Professor and Chairman, Department of Pathology, University of Alabama in Birmingham, University Station, Birmingham, Ala. 35294.** *The University of Alabama in Birmingham is an Affirmative Action/Equal Opportunity Employer and welcomes applications from females and minorities.*

Florida International University (FIU) is accepting applications for a **PETROLOGIST/GEOCHEMIST** tenure-earning position (assistant professor) available either January (closing date: 15 December) or August (closing date: 15 February) 1983. Ph.D. is required. Applicant should have background in petrology and geochemistry. Highly qualified candidates in the areas of geophysics or hydrogeology will also be considered. The successful candidate will be expected to teach at the undergraduate level and pursue a vigorous research program. Send curriculum vitae, transcripts, and names of three referees by the appropriate closing date to: **Chairperson, Earth Sciences Search Committee, Florida International University, Tamiami Campus, Miami, Florida 33199.** *FIU is a member of the State University System of Florida and is an Equal Opportunity Affirmative Action Employer.*

## PHYSIOLOGIST

Applications are solicited for a tenure-track position at the assistant or associate professor level, available immediately in the Department of Physiology, Tufts University Schools of Medicine, Dental Medicine, Veterinary Medicine, and the Sackler School of Graduate Biomedical Sciences. The department currently has strengths in developmental neuro- and cardiovascular physiology, as well as in exocrine secretory function. Candidates with active research programs in any of these areas and with teaching experience in physiology are particularly encouraged to apply. Duties will include research and the teaching of veterinary and graduate students. Applicants should have a Ph.D. and/or D.V.M. degree, as well as at least 2 years of postdoctoral research experience. Applications with curriculum vitae, publication list, and three letters of recommendation should be sent to: **Dr. Eunice I. Bloomquist, Department of Physiology, TUFTS UNIVERSITY, 136 Harrison Avenue, Boston, Mass. 02111.** *An Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### PEPTIDE CHEMIST

Postdoctoral position involving peptide sequencing, synthesis, and purification with active neuropeptide research group. Chemistry or biochemistry background preferable. Please contact: **Chris Evans, Ph.D., Nancy Pritzker Laboratory of Behavioral Neurochemistry, Department of Psychiatry, Stanford Medical School, Stanford, Calif. 94305.** *Equal Opportunity Employer.*

### PHYSIOLOGIST

The Department of Physiology, The University of Texas Health Science Center at San Antonio, is seeking an individual to fill a tenure-track faculty position. Academic rank and salary are dependent on experience and qualifications. The applicant should have a Ph.D. or M.D. degree and have research and teaching interests in one of the following areas: cellular, cardiovascular, endocrine-metabolism, or neurophysiological aspects of these systems. Preference will be shown to candidates with two or more years of postdoctoral experience and a currently funded research program.

Please submit curriculum vitae, a synopsis of research interests, and the names of three references by 1 January 1983 to: **Dr. Charles Levinson, Department of Physiology, The University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, Texas 78284.**

*An Equal Opportunity/Affirmative Action Employer*

**PLANT CELL/MOLECULAR BIOLOGIST.** Tenure-track position at assistant professor level to begin about 1 July 1983. This position is one of several in a newly created Department of Biology. Postdoctoral experience and demonstrated potential for excellence in research required. Send résumé, including a one-page statement of specific research plans, reprints, and the names and addresses of at least three references to: **Plant Cell/Molecular Biology Search Committee, Department of Biology, Wilson Hall (046A), University of North Carolina, Chapel Hill, N.C. 27514,** by 31 December 1982. *The University of North Carolina is an Affirmative Action/Equal Opportunity Employer.*

**PLANT MOLECULAR BIOLOGY.** The Department of Botany, University of Illinois at Urbana-Champaign, invites applications for a tenure-track position at the assistant or associate professor level for appointment in 1983, subject to budgetary approval. Applicants must have a Ph.D. in an appropriate area of biology/biochemistry and research interest in genetic engineering as it relates to the basic biology of gene expression in plants and/or the modification of plant genomes. The appointee will be expected to do research in the above area and to contribute to the graduate and undergraduate teaching programs. Salary is open and depends on the applicant's qualifications.

Applicants should send curriculum vitae and a summary of proposed research, and should arrange to have at least three letters of recommendation sent to: **Dr. John S. Boyer, Search Committee Chairman, Department of Botany, University of Illinois, 505 South Goodwin Avenue, Urbana, Illinois 61801-3793; telephone: 217-333-6109 or 333-3261.** In order to ensure full consideration, applications should be received by 15 November 1982. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL CELL BIOCHEMIST

Surgery Oncology Division has an opening for a Ph.D. in biochemistry who wishes to work with antigenic characterization of human cells. Knowledge of immunological chemistry techniques is required. The appointment for a minimum of 2 years has a salary of \$19,000 and up. Send curriculum vitae and two letters of reference to: **George E. Moore, M.D., Ph.D., Surgical Oncology, 750 Cherokee Street, Denver, Colo. 80204.** *The University of Colorado is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL FELLOWS.** Two positions available immediately for junior investigators with interest or experience in tumor cell kinetics, hormone receptors, radiobiology, and/or NMR and cancer therapeutics; or hematopoietic regulation and immunotherapy of leukemia. Send résumé to: **Lewis M. Schiffer, M.D., Chairman, Department of Experimental Therapeutics, or Philip Furmanski, Ph.D., Chairman, Department of Cell Biology, AMC Cancer Research Center and Hospital, 6401 West Colfax Avenue, Lakewood, Colorado 80214.**

## POSITIONS OPEN

**PLANT PATHOLOGY**—Ph.D. full-time, tenure-track position as assistant or associate professor with research (75 percent) and teaching (25 percent) duties in area of prokaryotic pathogens of plants. Emphasis on use of novel genetic and seriological approaches for developing an understanding of, and to characterize prokaryote and/or host genes involved in pathogenicity, virulence, specificity, and host range. Teach graduate course(s) and direct graduate programs. For full consideration, submit current résumé, transcripts of grades, and three letters of recommendation to: **Dr. W. L. Klarman, Professor and Head, Department of Plant Pathology, Oklahoma State University, Stillwater, Okla. 74078,** by 20 December 1982. **Telephone: 405-624-5643.**

*Oklahoma State University is an Affirmative Action/Equal Opportunity Employer.*

**PLANT PHYSIOLOGIST.** A position with the California Department of Food and Agriculture is open. An advanced degree is desirable and 5 years of experience is required. Work is in evaluation of data used to support registration of pesticides. Apply by 30 October 1982. Contact: **H. V. Cheney, Department of Food and Agriculture, 1220 N Street, Room A400, Sacramento, Calif. 95814; telephone: 916-322-5130.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** for recent Ph.D. or M.D., U.S. citizen or permanent resident, available immediately, supported by NIH training grant (National Research Service Awards), in the area of basic cancer chemotherapy, clinical cancer chemotherapy, cancer biology, or cancer drug development (organic synthesis). Application deadline: One month. Send résumé, indicating area(s) of interest and two or more letters of reference, to: **Dr. Sungman Cha, Brown University, Box G, Providence, R.I. 02912.** **Telephone: 401-863-3114.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available immediately to study molecular basis of X chromosome inactivation and chromosome position effects. Must have a Ph.D. or equivalent degree. Background in molecular biology and genetics required. Experience in recombinant DNA techniques and/or embryology would be helpful. Send curriculum vitae and names of three references to: **C. Distèche, Department of Pathology, SM-30, University of Washington, Seattle, Wash. 98195.** *Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL POSITION IN DIABETES RESEARCH UNIVERSITY OF MINNESOTA (SEARCH REOPENED)

Opportunity for basic studies on: neural regulation of islet function; cell-cell (gap junction) communication within islets; synthesis, secretion, and function of islet hormones; and effects of diabetes on the nervous system and on the male reproductive tract. Multidisciplinary techniques include morphology (electron microscopy, immunohistochemistry, freeze fracture), biochemistry (glycoprotein, protein and carbohydrate synthesis and metabolism), and physiology (dye transfer, single cell recording, islet perfusion, pancreas perfusion, cell and organ culture). Position available 1 January 1983. **Application deadline: 1 December 1982.** Submit curriculum vitae, three letters of reference, and research reprints to: **Dr. R. L. Sorenson, Department of Anatomy, 4-135 Jackson Hall, University of Minnesota, 321 Church Street, S.E., Minneapolis, Minn. 55455.** Applicants must be U.S. citizens or permanent residents. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

### POSTDOCTORAL/RESEARCH ASSOCIATE POSITION AVAILABLE IMMEDIATELY

For up to 2 to 3 years for an individual with expertise in biochemistry and interested in research and training in the area of molecular endocrinology. Existing studies include steroid receptor interaction with nucleotides, receptor purification and modification of receptor structure and function with inhibitors. Salary: \$13,000 with additional fringe benefits. Send curriculum vitae and names of three references to:

**Dr. Virinder K. Moudgil**  
Department of Biological Sciences  
Oakland University  
Rochester, Michigan 48063

*Oakland University is an Affirmative Action Employer.*



## ASSOCIATE SCIENTIST NUTRITIONAL RESEARCH

We are seeking an individual with a Master's Degree in nutritional biochemistry, or closely related field, and at least one year of experience in laboratory research. Experience and strong aptitude for analytical instrumentation are required. Experience with small animals and computer technology are desirable.

This position involves experimental research related to human nutrition using animal models. The individual selected for this position will help design and execute studies. This will require identification, evaluation, and development/modification of methods to study nutrient metabolism. The work will offer opportunity for publication, and therefore requires superior writing skills.

If this position is of interest, please send your resume, in confidence, to: Steve R. Sons, Manager Exempt Search, Dept. 124, Evansville, IN 47721.

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Candidates should have a Ph.D. in a liberal arts discipline as well as demonstrate academic achievements which merit a senior appointment. Administrative experience at the level of Chairperson or Director is essential. Dedication to academic excellence and a spirit of collegiality are required.

The College at Purchase, located in Westchester County, occupies a newly constructed campus, 30 miles northeast of N.Y.C. The institution includes, besides the College of Letters & Science, a school of the performing and visual arts, divisions of continuing education and educational opportunity. Current total enrollment is 3,000; faculty 166.

Position reports to Vice President for Academic Affairs, to be filled on or about July 1, 1983. Salary commensurate with qualifications and experience.

The search committee will begin its review in early November. Send application or nominations to Deanne Molinari, Affirmative Action Officer, SUNY COLLEGE AT PURCHASE, PURCHASE, NEW YORK 10577. An equal opportunity/ Affirmative action employer.

## DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE NATIONAL INSTITUTES OF HEALTH NATIONAL HEART, LUNG, AND BLOOD INSTITUTE

Opening Date: October 1, 1982 Closing Date: November 12, 1982

(All applications must be post-marked by the closing date.)

### DIRECTOR...DIVISION OF LUNG DISEASES

The National Heart, Lung, and Blood Institute is recruiting a Director for its Division of Lung Diseases. The Director will coordinate the planning, management, and evaluation of a major program of basic and targeted research, cooperative clinical trials, education and demonstration projects, and national lung centers. The Division itself is divided into six major programs, with a staff of approximately 30 employees and a current annual budget in excess of \$80 million.

This is a Civil Service position in the Senior Executive Service (SES), with base salary from \$54,755 to \$61,300 per year depending on qualification. Currently, the payable salary is limited to \$58,500. Physicians may be eligible for a comparability allowance up to \$10,000 per year. (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service). The SES individual selected, if not presently in the Senior Executive Service, must serve a one year probationary period. Mandatory professional/technical qualifications are a medical degree, or education in biomedical science and research and/or clinical experience in the field of lung diseases. Further information on these qualifications available by contacting Kathryn Osbourn, Personnel Management Specialist, National Institutes of Health, National Heart, Lung, and Blood Institute, Building 31, Room 5A-32, Bethesda, MD 20205, (301) 496-6477.

Mandatory managerial/executive qualifications include evidence of management of a basic or clinical research program, demonstrating ability to assume leadership responsibilities in developing program goals; representing the program to outside groups; directing program planning, execution, and evaluation; and conducting a fair and equitable employment program, including the attainment of EEO objectives.

Candidates who meet the mandatory qualifications will be further evaluated by the Search Committee on the degree to which they exceed the mandatory managerial/executive qualifications, and on the following desirable qualifications: scientific reputation/peer recognition; training and education in lung diseases; leadership of a basic or clinical research, or research administration program, and honors and awards indicative of outstanding contributions to the field of lung diseases.

**Applications (Personnel Statement of Qualification—SF-171) should be sent to Dr. Jay Moskowitz, Chairman, DLD Director Search Committee, Building 31, Room 5A03, National Institutes of Health, Bethesda, MD 20205, telephone (301) 496-6331.**

A current curriculum vitae and bibliography must accompany all applications. Applications of women and/or minority group members are especially solicited.

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## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately for Ph.D. in biochemistry to study secretions of plant-parasitic nematodes that induce giant cells (permanent feeding site) in root tissue. Applicant should be experienced with micromethods in molecular biology, immunology, and protein biochemistry. Salary is \$20,000 for the first year. Applicants should send a résumé, curriculum vitae, and three letters of reference to: **Dr. Richard S. Hussey, Department of Plant Pathology, University of Georgia, Athens, Ga. 30602.** *The University of Georgia is an Equal Opportunity/Affirmative Action Institution.*

**POSTDOCTORAL/RESEARCH ASSOCIATE** positions available October 1982: (i) For research in somatic cell genetics with emphasis on expression and organization of liver specific genes, experience in recombinant DNA technology desired. (ii) For research and development of human hepatocyte cell culture system, experience in epithelial cell culture desired. Send curriculum vitae, with description of research background, interests, and names and addresses of three references to: **Dr. Gretchen J. Darlington, Department of Pathology, Baylor College of Medicine, Texas Children's Hospital, P.O. Box 20269, Houston, Texas 77030.**

### FACULTY POSITION UNIVERSITY OF LOUISVILLE

**POSTDOCTORAL RESEARCH ASSOCIATE**—Immediate opening for a recent Ph.D. with experience in organic and/or peptide synthesis to work with a group involved in the synthesis and evaluation of inhibitors of disease-related mammalian collagenase. Salary: \$15,000 to \$16,000 per year, initially. Applicants should forward, by 1 November 1982, curriculum vitae, publication list, and names of two persons qualified to serve as references to: **Dr. Arno F. Spatola, Department of Chemistry, University of Louisville, Louisville, Ky. 40292.** *Affirmative Action/Equal Opportunity Employer.*

### POSTDOCTORAL/RESEARCH ASSOCIATES

Research on: (i) coated vesicle assembly using available monoclonal probes; (ii) membrane, coat, and receptor relationships; and (iii) transcellular IgG transport in a unique in vitro system. Salary: \$14,000 to \$19,000. Send curriculum vitae, statement of research interests, and telephone numbers of three referees to: **Dr. Thomas F. Roth, Department of Biological Sciences, University of Maryland Baltimore County (UMBC), Catonsville, Md. 21228.**

*UMBC is an Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately for recent Ph.D. to study inactivation of human viruses by disinfectants. Previous experience in disinfection studies, virus assay, and slab gel electrophoretic techniques preferred. Salary: minimum of \$18,000 for 1-year term, renewable. Send curriculum vitae and names of three references to: **Dr. J. M. Vaughn, Department of Energy and Environment, Building 318, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, N.Y. 11973.** *An Equal Opportunity Employer, M/F.*

### ERINDALE CAMPUS University of Toronto

#### POSTDOCTORAL RESEARCH FELLOW

We are seeking a postdoctoral fellow to participate in a team research effort that involves investigations on the biochemistry of nucleic acids in the edible mushroom, *Agaricus bisporus*, and mycoviruses that infect this agriculturally important mushroom. The successful candidate should have a strong background in the biochemistry of nucleic acids and genetics. Preference will be given to individuals with recombinant DNA experience or experience with monoclonal antibodies. Salary: \$18,000 to \$20,000 per annum. Appointment date: 1 December 1982. Closing date for receipt of applications: 15 November 1982. Send curriculum vitae and two letters of reference to: **Dr. P. A. Horgen, Biology Group, University of Toronto, Erindale Campus, Mississauga, Ontario, Canada L5L 1C6.**

**RESEARCH ASSOCIATE—MOLECULAR GENETICIST.** Available immediately for Ph.D. to develop cloning systems for *Zymomonas*. Two-year position; \$17,000. Please submit curriculum vitae and three letters of recommendation to **Douglas Eveleigh, Department of Biochemistry and Microbiology, Cook College, Rutgers University, New Brunswick, N.J. 08903.** *An Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH ASSOCIATE

Postdoctoral position in developmental/cell biology in a laboratory investigating the nature of the aging cell surface. Experience in membrane biochemistry, immunocytochemistry, and electron microscopy desirable. Please send curriculum vitae, statement of research interests, and names of three references by 1 November 1982 to: **Robert O. Kelley, Ph.D., Professor and Chairman, Department of Anatomy, University of New Mexico School of Medicine, Albuquerque, N.M. 87131.**

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### UNIVERSITY OF CALIFORNIA, IRVINE

**POSTDOCTORAL RESEARCH POSITION.** To work on the isolation and genetic regulation of human genes of clinical significance. Experience in recombinant DNA methodology desirable. Send curriculum vitae and names/addresses of three references to **Dr. M. Smith, Departments of Pediatrics and Microbiology, College of Medicine, University of California, Irvine, Calif. 92717.** *An Affirmative Action/Equal Opportunity Employer.* Closing date: 15 November 1982.

**POSTDOCTORAL RESEARCH POSITION** in reproductive biology (salary at least \$16,500 per year). Research involves in vitro manipulations of lower vertebrate (that is, teleost and amphibian) ovarian follicles. Work emphasizes steroid radioimmunoassay, bioassay (meiosis and ovulation), chromatography, and microinjection. Send curriculum vitae, telephone number, and names, addresses, and telephone numbers of three biologists familiar with the applicant's work to: **Charles A. Lessman, Ph.D., Department of Biology, St. Francis Xavier University, Antigonish, Nova Scotia, Canada B2G 1C0.**

### RESEARCH ASSISTANT PROFESSOR DEPARTMENT OF MEDICINE UNIVERSITY OF VERMONT

Pending restricted funding, full-time position in the Department of Medicine to develop a specific locus human somatic cell mutagenicity assay. Ph.D., with experience in developing mammalian cell specific locus mutagenicity tests. Requires at least 3 years of postdoctoral training. Send curriculum vitae and inquiries by 29 October to: **Dr. Richard J. Albertini, Department of Medicine, University of Vermont College of Medicine, Given Medical Building, Burlington, Vt. 05405.** *An Affirmative Action Employer; women and minorities encouraged to apply.*

**RESEARCH ASSOCIATE** at the level of instructor to work on embryo transplantation experiments in genetically hypertensive rats. Appropriate backgrounds for applicants could be genetics or physiology, but these specific disciplines are not necessarily required. The work will be part of ongoing projects on the biochemical-genetics of hypertension. The position is available immediately. Send curriculum vitae to **Dr. John Rapp, Department of Medicine, Medical College of Ohio, C.S. 10008, Toledo, Ohio 43699.** *An Equal Opportunity Employer, M/F.*

**RESEARCH ASSOCIATE, Ph.D.** Immediate position available to set up laboratory for neuropsychopharmacological drug assays for research involving biochemical and behavioral influences of catecholamines and related neurotransmitters in human and nonhuman primates. Academic appointment possible. Send curriculum vitae and three references to **Daniel E. Casey, M.D., Psychiatry Service, VA Medical Center, Portland, Ore. 97207.** *Affirmative Action/Equal Opportunity Employer.*

**RESEARCH INVESTIGATOR (histopathologist).** Ph.D. or M.D. degree and 3 years of experience as a research investigator (histopathologist), or 3 years of experience in dermatology or plastic surgery research. One year of experience in examination of normal and pathological skin with light and electron microscopy. Must be independent in everyday work. Perform research on congenital vascular malformations (strawberry hemangiomas, port wine stains), and the phenomenon of skin expansion. Duties will involve proficiency in technical detail of preparing specimens for electron microscopy, examining the tissue under light and electron microscopy before and after using ultraviolet light, interpreting the results, and writing manuscripts for research journals. Knowledge of ultrastructural characteristics of normal and abnormal endothelial cells is necessary for this research. Salary: \$21,800; 40 hours per week. Forward applications to: **MESC, 7310 Woodward Avenue, Room 415, Detroit, Michigan 48202.** Reference 25782.

## POSITIONS OPEN

### ADVANCED GENETIC SCIENCES, INC.

Advanced Genetic Sciences, Inc. (AGS) is seeking Ph.D.-level research associates and B.S./M.S.-level research technologists to work at our new Manhattan, Kansas, laboratory in the following areas:

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**ADVANCED GENETIC SCIENCES  
P.O. Box 1373  
Manhattan, Kansas 66502**

### RESEARCH ASSOCIATE UNIVERSITY OF COLORADO

Two postdoctoral positions in toxicology/xenobiotic metabolism involve studies of the mechanisms of enzymatic activation of halogenated hydrocarbons and phenolic antioxidants. Will use GC/MS and HPLC techniques extensively. Background in organic/medical chemistry or pharmacology (with a chemical emphasis) is desirable. Positions are for 1 to 3 years with salaries dependent on qualifications. Send curriculum vitae and names of references to: **Dr. John A. Thompson, Pharmaceutical Sciences, Campus Box 297, University of Colorado, Boulder, Colo. 80309.** *An Affirmative Action/Equal Opportunity Employer.*

**RESEARCH ASSOCIATE, Ph.D.** in physiology or biophysics and experience in epithelial transport and renal physiology, to study transport and permeability properties of individual renal tubular cells. Duties include microdissection, separation, and plating on special support of cells from identified segment nephron; incubation in appropriate agents; determination of modification in ionic content using electron probe microanalysis on population of individual cells. Send résumés only to: **Marie Molineaux, Boston Placement Office, Hurley Building, Boston, Mass. 02114,** and refer to job reference number 2511.

**RESEARCH SCIENTIST** to do molecular cloning of plant genes that may be involved in symbiotic  $N_2$ -fixation and in seed protein biosynthesis. Applicant must have knowledge of symbiotic  $N_2$ -fixation systems, have had extensive experience with various plant systems, and be experienced in the use of sophisticated techniques in the field of cell and molecular biology. Minimum requirements: Ph.D. in plant sciences with at least 3 to 4 years of postdoctoral experience, 2 years of which must be in the area of plant molecular biology. Salary: \$27,000 per year for 40-hour week. Send résumé to: **S. Menon, Wisconsin Job Service, 206 North Broom Street, Madison, Wis. 53703; telephone: 608-266-2341.** This ad not paid for by Job Service funds.

### UNIVERSITY OF CALIFORNIA, SANTA CRUZ STAFF RESEARCH ASSOCIATE III JOB NUMBER 82-08-36

Under chemistry faculty supervision, will organize a program of laboratory experiments for introductory chemistry and/or introductory organic chemistry courses. Duties include the design of new experiments, instructing on the principles, techniques, and character of the laboratory experiments (including safety and emergency procedures), preparing related written materials for students, supervising one staff member and teaching assistants; and coordinating laboratory sessions (for example, assigning students to sessions, arranging for equipment and chemicals). Minimum qualifications: graduation from college with major in chemistry plus 2 years of experience, or master's plus 1 year of experience; Ph.D. highly desirable. Good communication skills are essential. Previous supervisory experience required. Application must include curriculum vitae (résumé) and three letters of recommendation submitted in confidence (sent directly to Personnel from references). Please refer to the job number and title in all correspondence. Must pass a pre-employment physical. Salary: \$1755 per month. Apply by 22 November 1982 to: **Personnel Office, University of California, Santa Cruz, Communications Building, Santa Cruz, Calif. 95064.**

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As section leader within the Pathology and Toxicology Department, the successful candidate will be responsible for studies in both bacterial and eukaryotic test systems to assess pharmaceutical compounds for their mutagenic potential. Involvement will span study design, performance, evaluation, and reporting.

To qualify, your Ph.D. should be supported with demonstrated, independent decision-making ability and an outstanding record of achievement in genetic toxicology. Previous industrial experience would be an asset.

We offer an excellent starting salary, full ranging benefits, and an exceptional opportunity for professional achievement. For prompt, confidential consideration, please forward your résumé, including salary history and requirement, to: **MANAGER OF EMPLOYMENT**,



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## POSITIONS OPEN

**RESEARCH ASSOCIATE—NEUROSCIENCE PROGRAMMER.** We seek a colleague whose primary interest would be in software development for our research group. Responsibilities include system management, and development of collection and data analysis programs for neurobehavioral experiments. Experience with PDP-11 minicomputers, assembly and higher level languages, and the RT-11 operating system is desirable. Starting salary up to \$26,000. Send résumé to: **Dr. Vernon B. Mountcastle, Department of Neuroscience, Johns Hopkins University School of Medicine, 725 North Wolfe Street, Baltimore, Maryland 21205.**

**RESEARCH POSITION** available immediately for Ph.D. in cerebrovascular research laboratory. Excellent opportunity to join expanding, privately funded research facility affiliated with the Department of Neurosurgery at The Pennsylvania Hospital and residency training program at The University of Pennsylvania. Background in stroke and stroke management, cerebral blood flow techniques, and animal surgery desired. Please send curriculum vitae, including salary history and/or requirement, to: **Frederick Simeone, M.D., Chairman, Department of Neurosurgery, Pennsylvania Hospital, 8th and Spruce Streets, Philadelphia, Pa. 19107. Equal Opportunity Employer.**

**RESEARCH POSITION**, Ph.D. or M.D., available immediately for 2 years plus possible extension, in the Hematology Division of a Columbia University-affiliated hospital engaged in research on platelets (functional platelet disorders, membranes, proteins, receptors, organelles, prostaglandins, energetics, and immunology) and coagulation (particularly Factor VIII/von Willebrand factor). Salary range: \$20,000 to \$24,000. Send curriculum vitae, references, and a brief summary of how your specific interests and experience might apply to above research efforts to: **Dr. Harvey J. Weiss, The St. Luke's-Roosevelt Hospital Center, 428 West 59 Street, New York, N.Y. 10019.**

## ADVANCED STUDY INSTITUTE

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16 to 30 June 1983; Erice, Italy.

For information, write to: **Professor B. Di Bartolo, Department of Physics, Boston College, Chestnut Hill, Mass. 02167.**

## FELLOWSHIPS

### THE HEBREW UNIVERSITY OF JERUSALEM

Jerusalem, Israel

The Hebrew University of Jerusalem offers a small number of **POSTDOCTORAL FELLOWSHIPS** for the 1983-84 academic year in the humanities, social sciences, natural sciences, agriculture, and medicine.

Candidates may apply at an early stage of their professional career (not later than 3 years after completion of their doctoral dissertation) to: **P.O. Box 1255, Jerusalem 91904, Israel.**

Completed application forms must be returned by 1 December 1982.

## FELLOWSHIPS

**RESEARCH FELLOWSHIP.** Postdoctoral research traineeship available immediately for 1, 2, or 3 years in the area of neural control of the circulation and neurogenic mechanisms of systemic hypertension. Ph.D. in physiology or biochemistry. Must have experience in neurochemistry, radioimmunoassay of peptide hormones and neurotransmitters, radioenzymatic and HPLC assays for catecholamines and metabolites, use of stereotaxic instruments for invasive brain study, and experience with in vitro superfusion techniques for quantifying hormone and neurotransmitter release from hypothalamus and pituitary. Contact **Suzanne Oparil, M.D., University of Alabama in Birmingham, 1012 Zeigler Building, University Station, Birmingham, Alabama 35294. An Affirmative Action/Equal Opportunity Employer.**

### PRINCETON UNIVERSITY DEPARTMENTS OF PSYCHOLOGY AND BIOLOGY NEUROSCIENCE AND BEHAVIOR GROUP POSTDOCTORAL FELLOWSHIPS AND RESEARCH ASSOCIATE POSITIONS

A limited number of postdoctoral fellowships and research associate positions with individual faculty members become available from time to time. Applicants must have received a Ph.D. prior to their appointment. Relevant neuroscience and behavior faculty in psychology include: B. Campbell, J. Farley, C. Gross, B. Hirst, B. Hoebel, B. Jacobs, G. Miller, and C. Olson; in biology: M. Constantine-Paton, A. Gelperin, J. Gould, R. Greenspan, R. Lisk, W. Quinn, and D. Ready.

For further information about specific laboratories with openings, write: **Neuroscience Coordinator, Department of Psychology, Princeton University, Princeton, New Jersey 08544.**

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**HERBERT H. JASPER POSTDOCTORAL RESEARCH FELLOWSHIP IN NEUROSCIENCE** available. Position provides first year salary and use of the exceptional facilities of the Center for Research in Neurological Sciences. Recipient works closely with investigator of choice, within a large group currently studying a wide range of topics in the vertebrate nervous system. Further information and application forms available from: **Fellowship Committee, Centre de recherche en sciences neurologiques, Faculté de médecine, Université de Montréal, C.P. 6128, Succ. A, Montréal, Québec, Canada H3C 3J7. Deadline: 28 February 1983.**

**THE MICHIGAN SOCIETY OF FELLOWS** invites nominations for the **JUNIOR FELLOWSHIPS**. Candidates should be especially able and creative scholars who are not more than 3 years beyond completion of the Ph.D. Fellowships are for 3 years with a one-third time teaching appointment. Interdisciplinary interests and research are encouraged. Nominating letters should include a statement of support and nominee's current address. Nominations close 29 October 1982. Address nominations and enquiries to: **Michigan Society of Fellows, 3030 Rackham, University of Michigan, Ann Arbor, Mich. 48109; telephone: 313-763-1259. An Equal Opportunity Program.**

**POSTDOCTORAL FELLOWSHIPS** (M.D. and Ph.D.) are available in clinical and basic research aspects of endocrinology, metabolism, and clinical nutrition. Specific areas of interest include: calcium and bone metabolism, neuroendocrinology, carbohydrate metabolism, lipid and lipoprotein metabolism, nutrition, pituitary physiology, mechanisms of hormone secretion, and thyroid physiology. Funding is for U.S. citizens through the National Institutes of Health. Dr. Eric Orwoll, Division of Endocrinology, Metabolism and Clinical Nutrition, Oregon Health Sciences University, Portland, Ore. 97201.

**POSTDOCTORAL FELLOWSHIP** in biochemical and clinical pharmacology. Studies will focus on daunorubicin metabolism in patients with acute non-lymphocytic leukemia and mechanisms of resistance to anthracyclines in human cell lines. Research experience in biochemistry and enzymology (particularly drug uptake into mammalian cells, tissue culture, and protein purification) is preferred. Submit application with curriculum vitae, a description of research interest, and the names of three references to: **Dr. Nahed Ahmed, Assistant Member, St. Jude Children's Research Hospital, P.O. Box 318, Memphis, Tenn. 38101. An Equal Opportunity/Affirmative Action Employer.**

## FELLOWSHIPS

**BIOLOGY TEACHING FELLOWSHIPS** are available to qualified applicants for spring and fall 1983. The master of science program offers diverse thesis specialties in aquatic biology, cell biology, botany, ecology, behavior, electron microscopy, and other areas. Fellowships pay a maximum of \$4,250 per academic year. Send applications to: **Dr. R. C. Harrel, Graduate Advisor, Department of Biology, P.O. Box 10037, Lamar University, Beaumont, Texas 77710. An Equal Opportunity/Affirmative Action Employer.**

## GRADUATE STUDY

**GRADUATE TRAINING IN BIOCHEMISTRY AND BIOPHYSICS** at the University of Hawaii. Join our active medical school department engaged in numerous research projects of interest and importance. Unique geographical and cultural setting. Predoctoral teaching and research assistantships available September 1983 to qualified applicants. Write to: **Chairman, Department of Biochemistry and Biophysics, University of Hawaii, Honolulu, Hawaii 96822. An Equal Opportunity Employer.**

## PROGRAM

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## ASSISTANTSHIPS

### Graduate Student Position at the University of Cincinnati College of Medicine Department of Anatomy and Cell Biology

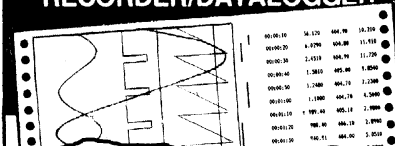
Several **GRADUATE ASSISTANTSHIPS** with stipend are available in the Department of Anatomy and Cell Biology at the University of Cincinnati College of Medicine. The department has a faculty with diverse research interests with a strong emphasis in cellular and developmental biology. Funded research programs include cell-cell interactions and cell junctions; electron microscopy and metabolism of liver function; molecular genetics, DNA replication, and gene cloning; teratocarcinoma differentiation; and neurobiology.

The philosophy of the department is to train the student to become proficient in teaching one or more of the anatomical disciplines and to develop and pursue a competitive research program.

Inquiries should be sent to: **Dr. S. Garfield, Department of Anatomy and Cell Biology, University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, Ohio 45267.**

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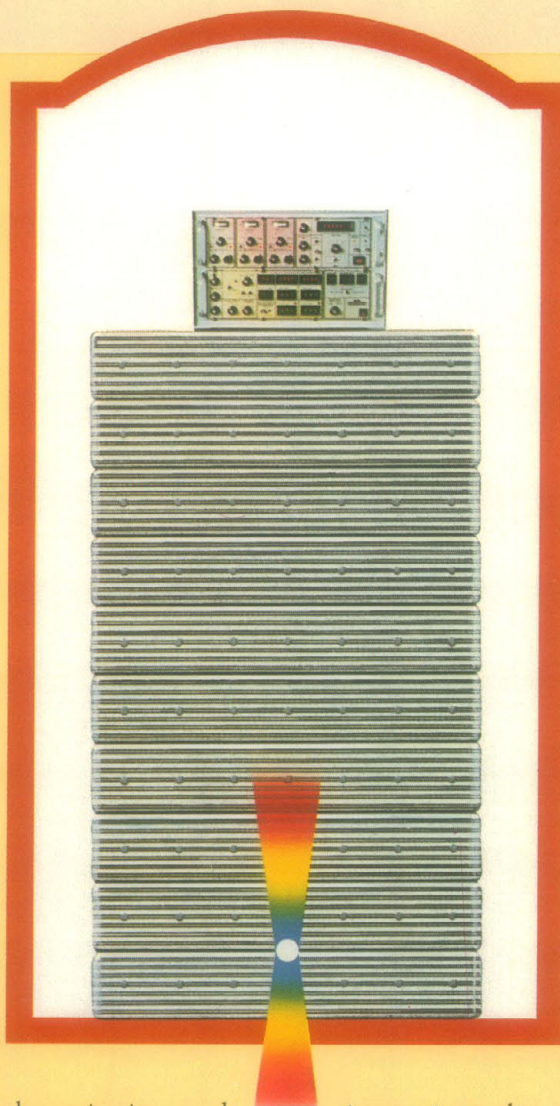
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And that, dear reader, is no fairy tale.

The SLM 8000, for example, measures a molecular emission spectrum of picomolar fluorescein at 4 nm resolution on both excitation and emission monochromators. That's a true measurement. Not just an extrapolation.

Stray light rejection of the SLM 8000 single grating monochromator equals that of most competitive double monochromators. And the stray light rejection of  $10^{10}$  to  $10^{12}$  per nanometer in the SLM 8000 double-grating unit is unmatched by competitive instruments at any price. That makes measurements in highly scattering samples like whole cells as simple as pea soup.

That's Chapter 1 of the story... now here's a bit about Chapter 2.

And, depending on the nature of your study, equally important.

With microprocessor-based electronics, you get spectral data processing as an integral part of the SLM 8000.

Built right in the SLM 8000 are data processing features that are normally available only with outboard data processing options:

direct readout of polarization or anisotropy, automatic background subtract, real-time excitation and emission correction, difference spectra, and derivative spectra. And custom SLM software can be ordered for specific applications.

For the complete story about the SLM 8000 contact SLM Instruments, Inc. Members of our staff will be happy to answer any of your questions. Write SLM Instruments, Inc., 810 West Anthony Drive, Urbana, IL 61801, U.S.A. or call (800) 637-7689 toll-free. TELEX 20-6079.

*Partners in progress.*

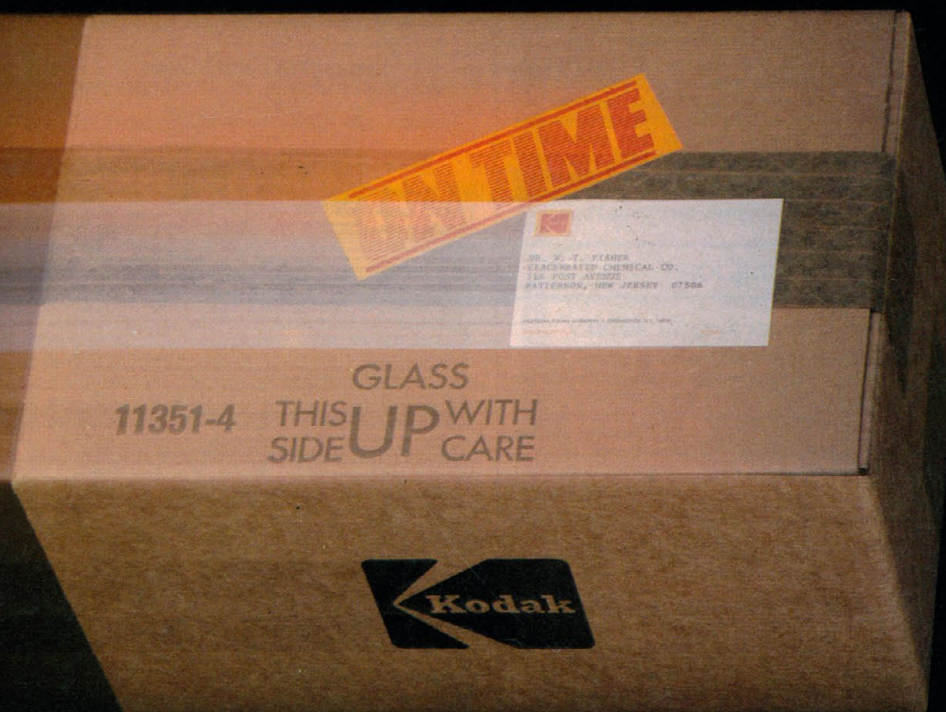
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