

membrane of rabbit colon. The sodium current-voltage relationship was determined, and the possibilities of a channel or a carrier accounting for the sodium uniport are lucidly discussed.

The heterogeneity of epithelial transport functions and the large number of tissues under current investigation make it impossible to cover the field in a single volume, as do the number of biophysical and biochemical approaches to the study of these complicated tissues. Hence, it is probably not entirely fair to criticize the choice of topics, but I could not help missing discussions of important recent developments, such as transport studies in isolated membrane vesicles and noise analysis techniques applied to both tight and leaky epithelia.

The section on cell-volume regulation, although interesting by itself, does not fit clearly in the volume. Since these papers were not restricted to the subject of cell-volume regulation in epithelia, it might have been appropriate to include one or more papers on the interesting recent results obtained in red blood cells.

In summary, this is a useful, timely volume. I recommend it highly to both established workers and newcomers to the field.

LUIS REUSS

*Department of Physiology and
Biophysics, Washington University
School of Medicine,
St. Louis, Missouri 63110*

The Chromosomes of Insects

Insect Cytogenetics. Papers from a symposium, London, Sept. 1979. R. L. BLACKMAN, G. M. HEWITT, and M. ASHBURNER, Eds. Published for the Royal Entomological Society by Blackwell Scientific, Oxford, 1981 (U.S. distributor, Halsted [Wiley], New York). viii, 278 pp., illus. \$69.95. Symposia of the Royal Entomological Society of London, No. 10.

The insects show more chromosomal diversity than any other class of animals. This diversity is manifested in the range of the number of chromosomes and amount of nuclear DNA, the variety of chromosomal sex-determining systems, and the multiplicity of chromosomal forms. It is also reflected in the enormous amount of research carried out on insect chromosomes. This book is a collection of 15 papers that cover the breadth of studies on insect cytogenetics. The papers are grouped into sections on genome organization, chromosome structure and function, breeding systems, ecology and speciation, and the cytogenetics of pest insects. The contribu-

tors are of the first rank of insect cytogeneticists, and this is reflected in the overall high quality of the papers.

The papers concentrate on two topics, the organization of DNA within insect chromosomes and evolutionary cytogenetics. The treatment of the first of these comprises five papers. Peacock and Lohe review with remarkable brevity the literature on repeated sequences in *Drosophila* chromosomes. The subject has been studied extensively, and this paper furnishes the reader with a nearly complete introduction that is direct and readable. Peacock and Lohe are willing to speculate on the functions of repeated sequences and to interpret freely the evidence from a number of laboratories. Though this is one of the better papers, I mention it chiefly as an example of the general style of these five. They are comprehensive, are usually concise and current, and include general conclusions and speculation. Ashburner's review of the organization of polytene chromosomes demands special note. Despite the extensive research on the giant chromosomes of insects, many questions about their structure and their relationship to the interphase chromosomes of diploid cells remain unanswered. Ashburner has performed a valuable service in laying out these questions clearly, with extensive citation of the literature.

The material on evolutionary cytogenetics is presented as comprehensive research papers, each concentrating on a single species. Many of these papers address the issue of chromosomal changes and the isolation of species. Because of the nature of cytogenetic evidence, it is not surprising that the ideas presented about speciation have more to do with gross chromosomal mechanisms than with genetic polymorphism. This inherent bias notwithstanding, the evidence for population changes related to chromosome rearrangements is strong. Since subspecies of grasshoppers can be distinguished by their karyotypes, it is possible to study the origins and effects of hybrid zones between taxa. The papers by Hewitt and Barton and by Shaw, Moran, and Wilkinson demonstrate clearly that parapatric taxa can be isolated by hybrid inferiority without major geographical barriers. Though these authors indicate that chromosomal changes alone do not account for the observed heterozygote inferiority, it becomes clear that rare single events, such as chromosome fusions or inversions, can, under appropriate conditions, lead to genetic isolation.

Many of the other papers on chromosome systems in insects give an indica-

tion of the diversity of karyotype variations, many of which could lead to species isolation. Noteworthy examples are Nur's review of the difficult literature on coccid chromosome behavior, Rothfel's clever analysis of the natural occurrence of chromosome rearrangements in black flies, and Carson's reconstruction of the recent evolutionary history of the picture-winged *Drosophila*.

It is apparent that the integration of molecular analysis into more classical cytogenetics has barely begun. This excellent volume, if read carefully, establishes many of the areas in which this hybridization is likely to occur.

BRIAN B. SPEAR

*Department of Biological Sciences,
Northwestern University,
Evanston, Illinois 60201*

Books Received

Annual Review of Microbiology. Vol. 35. Mortimer P. Starr, John L. Ingraham, and Albert Balows, Eds. Annual Reviews, Palo Alto, Calif., 1981. xii, 684 pp., illus. \$20.

Anthropology of Human Birth. Margarita Artschwager Kay. Davis, Philadelphia, 1981. xviii, 446 pp. \$25.

Applied Iterative Methods. Louis A. Hageman and David M. Young. Academic Press, New York, 1981. xx, 386 pp., illus. \$39.50. Computer Science and Applied Mathematics.

Applied Statistics. Principles and Examples. D. R. Cox and E. J. Snell. Chapman and Hall, London, 1981 (U.S. distributor, Methuen, New York). viii, 190 pp., illus. Cloth, \$32; paper, \$14.95.

Basic Operator Theory. Israel Gohberg and Seymour Goldberg. Birkhäuser, Boston, 1981. xiv, 286 pp. \$14.95.

Climatic Variations and Variability. Facts and Theories. Papers from an institute, Erice, Italy, Mar. 1980. A. Berger, Ed. Reidel, Boston, 1981 (distributor, Kluwer Boston, Hingham, Mass.). xxvi, 796 pp., illus. \$87.50. NATO Advanced Study Institutes Series C, vol. 72.

Clinical Applications of Visual Psychophysics. Proceedings of a symposium, San Francisco, Oct. 1978. Luis M. Proenza, Jay M. Enoch, and Arthur Jampolsky, Eds. Cambridge University Press, New York, 1981. x, 304 pp., illus. \$39.95.

Direct Characterization of Fineparticles. Brian H. Kaye. Wiley-Interscience, New York, 1981. xviii, 398 pp., illus. \$60. Chemical Analysis, vol. 61.

Discrete Electronic Components. F. F. Mazda. Cambridge University Press, New York, 1981. viii, 178 pp., illus. \$37.50.

Dislocation Modelling of Physical Systems. Proceedings of a conference, Gainesville, Fla., June 1980. M. F. Ashby, R. Bullough, C. S. Hartley, and J. P. Hirth, Eds. Pergamon, New York, 1981. x, 588 pp., illus. \$75.

Dr. Michael Fox's Massage Program for Cats and Dogs. A New Approach to Pet Health Care and Fitness. Michael W. Fox. Newmarket Press, New York, 1981. viii, 152 pp., illus. \$10.95.

Grant Budgeting and Finance. Getting the Most Out of Your Grant Dollar. Freya E. Sladek and Eugene L. Stein. Plenum, New York, 1981. xviii, 328 pp. \$19.50.

The Grizzlies of Mount McKinley. Adolph Murie. National Park Service, Washington, D.C., 1981 (available from the Superintendent of Documents, Washington, D.C.). xviii, 252 pp., illus. Paper, \$6. Scientific Monograph Series No. 14.

Groundwater Resources. Investigation and Development. S. Mandel and Z. L. Shifftan. Academic Press, New York, 1981. xii, 270 pp., illus. \$32. Water Pollution.

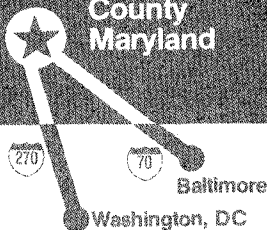
How Safe Is Nuclear Energy? Alan Cottrell. Heinemann, Exeter, N.H., 1981. iv, 124 pp. Paper, \$6.

Human Factors in Lighting. P. R. Boyce. Macmillan, New York, and Collier Macmillan Canada, Toronto, 1981. xvi, 422 pp., illus. \$45.

Immunology of Human Infection. Part 1, Bacteria, (Continued on page 596)

**Move on up.
There's plenty
of room
at the Top.**

**Frederick
County
Maryland**



Room to expand. Room for profit and productivity. Room for your business to grow. And it's all at the top of the bustling I-270 corridor in Frederick County, Maryland. Where business is booming bigger every day.

Here you'll find land that's affordably priced. Well-planned industrial parks. Abundant semi-skilled and professional labor in a region that boasts the greatest concentration of scientists and engineers in the country.

Overnight delivery by truck to over 1/3 of the U.S. Three international airports, the Nation's Capital and the port of Baltimore all within an hour's drive. And a growing, friendly community right in your own backyard.

Location. Labor. Land. Three of the movingest reasons we know to take your business to the Top.

For more information, in complete confidence, call . . .

Donald Date, Director
Economic & Community
Development Commission
Winchester Hall
Frederick, MD 21701
(301) 694-1058



Frederick County, Maryland

MARKETING/ TECHNICAL SUPPORT BIOMEDICAL PRODUCTS

LKB Instruments, Inc., a leading, innovative supplier of biomedical research equipment, has 3 key technical support positions available in its Marketing Department:

HPLC Product Specialist

Responsible for providing marketing and technical support for a new range of HPLC instrumentation. The ideal candidate possesses a B.S. or M.S. in a life science with practical experience in, and detailed knowledge of, HPLC.

Amino Acid Analysis and Chromatography Product Specialist

Responsible for providing marketing and technical support to customers and field sales personnel on a wide range of chromatographic instrumentation. Ideal candidate possesses a B.S. or M.S. in a life science with practical experience in chromatography and amino acid analysis.

Applications Specialist Electrophoresis and Electrofocusing Products

Responsible for applications work and providing technical support for the electrofocusing and electrophoresis product line. Ideal candidate possesses a B.S. and practical experience in electrophoretic techniques.

All positions offer a competitive salary and comprehensive benefits package with many opportunities for advancement. Positions are located in Rockville, MD and involve limited travel within the U.S. Send resume to:

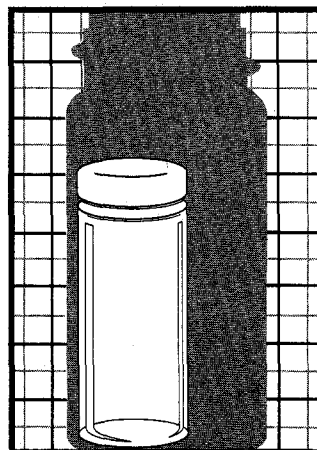
David Weber, LKB Instruments, Inc.,
12221 Parklawn Drive, Rockville, MD 20852.



Equal Opportunity Employer, M/F

THE INCENTIVE GROUP

J.T. Baker Reduced Volume Scintillation Fluids for Aqueous LSC Samples



FACTS:

- Requires only 3-5 ml of fluid per 1 ml of aqueous sample
- Yields cost reduction of 33-50%
- Gives significantly improved counting efficiency
- Cuts waste volume in half
- Provides increased safety—higher flash points and safer packaging

Baker provides a choice of three reduced volume fluids:

- AQUALYTE™
- AQUALYTE PLUS™
- MAXIFLUOR™

combined with 6 ml and 3 ml MILLIQUANT™ vials. This innovative system drastically reduces per sample costs and overall waste disposal *without sacrificing performance.* (See Table I)

Table I: ³H-Counting Efficiency for 0.15M NaCl

Sample Load	0.5 ml	1.0 ml	1.6, 1.4, 1.4 ml
Reduced Volume Fluid (4 ml)	53.3	50.0	43.9
Cocktail A (10 ml)	42.3	38.3	38.2
Cocktail B (10 ml)	42.3	41.1	38.5

Higher counting efficiency and increased sample loading capacity result from the use of Baker's proprietary blend of ionic surfactants. To discover how J. T. Baker's reduced volume approach can work for you, write or call:



J. T. Baker Chemical Company
Product Manager
Biological Science Products
222 Red School Lane
Phillipsburg, NJ 08865 (201) 859-2151



HARVARD
SCHOOL
OF
PUBLIC
HEALTH

GRADUATE PROGRAMS IN ENVIRONMENTAL HEALTH SCIENCES

1982-83

The Harvard School of Public Health is seeking candidates for enrollment in its graduate programs in occupational and environmental health. People qualified for enrollment range from recent bachelor degree recipients to mid-career professionals. Areas in which enrollees can specialize include air pollution control, occupational health, industrial hygiene, radiation protection and environmental health management. Supplementing the teaching program are extensive opportunities for research, both for M.S. and doctoral candidates, in the development and application of techniques for monitoring worker and public exposures to airborne particulates and gases, the development of mathematical models for estimating exposures in indoor and outdoor environments, air and gas cleaning including the control of naturally occurring airborne radionuclides in buildings, the application of physical and chemical methods for identifying the sources of specific environmental containments, and the evaluation of associated risks. A range of traineeship and fellowship support is available.

The deadline for applying for fall, 1982, admission is March 1, 1982. Potential applicants should contact the Department of Environmental Health Sciences, Harvard School of Public Health, 665 Huntington Avenue, Boston, MA 02115 (617: 732-1169).

ENVIRONMENTAL SCIENCE AND ENGINEERING FELLOWSHIPS

Applications Invited

The American Association for the Advancement of Science (AAAS) invites applications for summer environmental science and engineering fellowships. Applications are invited from postdoctoral to mid-career scientists, engineers, and other appropriate professionals. Six such fellowships are available for the summer of 1981. *The deadline for application is 1 February 1981.* The 10-week appointment begins approximately 1 June 1981 and lasts until approximately 15 August 1981. The awards will be announced prior to 15 April 1981.

The persons selected will work closely with the Environmental Protection Agency's Office of Strategic Assessment and Special Studies (OSASS) and assist it in identifying and assessing the significance of long-range environmental problems and opportunities. The award consists of a taxable stipend of \$500 per week and a nominal additional amount for temporary relocation expenses and travel in connection with the fellowship.

Each awardee will be assigned part or all of a policy research project of mutual interest to the fellow and OSASS and prepare a report at the completion of the focused research. The selection of projects and research approach will be designed to meet the two purposes to the program stated above as well as to draw upon the particular talents and interests of each fellow. Areas of interest include: mobile source air pollution; oxidants, gases, and particles; hazardous municipal wastewater and spills; drinking water; solid hazardous waste; chemical testing and assessment; pesticides; radiation; and energy.

Candidates are expected to be critical thinkers, articulate, adaptable, and able to work with a variety of people from different professional backgrounds. Persons may apply from any physical, biological, or behavioral science or any field of engineering or any other relevant professional field.

Persons interested in further information and details on selection criteria and requirements should write to: **Environmental Science and Engineering Fellowship Program, American Association for the Advancement of Science, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036.**

BOOKS RECEIVED

(Continued from page 498)

Mycoplasmae, Chlamydiae, and Fungi. André J. Nahmias and Richard J. O'Reilly, Eds. Plenum, New York, 1981. xxviii, 652 pp. \$49.50. Comprehensive Immunology, 8.

The Immunology of Infant Feeding. Proceedings of a school, Erice, Italy, Sept. 1980. A. W. Wilkinson, Ed. Plenum, New York, 1981. viii, 152 pp., illus. \$29.50. Ettore Majorana International Science Series, vol. 8.

Ionophores and Their Structures. Max Dobler. Wiley-Interscience, New York, 1981. xii, 380 pp., illus. \$57.50.

Jenner's Smallpox Vaccine. The Riddle of Vaccinia Virus and Its Origin. Derrick Baxby. Heinemann, Exeter, N.H., 1981. xiv, 214 pp., illus. \$25.

Kinetics and Dynamics of Elementary Gas Reactions. Ian W. M. Smith. Butterworths, Boston, 1981. xii, 388 pp., illus. \$72.95. Butterworths Monographs in Chemistry and Chemical Engineering.

Knowledge-Based Systems in Artificial Intelligence. Randall Davis and Douglas B. Lenat. McGraw-Hill, New York, 1981. xxii, 490 pp. \$39.50. McGraw-Hill Computer Science Series.

The Land of Stevin and Huygens. A Sketch of Science and Technology in the Dutch Republic during the Golden Century. Dirk J. Struik. Translated from the Dutch edition (1979). Reidel, Boston, 1981 (distributor, Kluwer Boston, Hingham, Mass.). xx, 164 pp. + plates. Cloth, \$34; paper, \$18.50. Studies in the History of Modern Science, vol. 7.

The Moon—Our Sister Planet. Peter H. Cadogan. Cambridge University Press, New York, 1981. viii, 392 pp., illus. Cloth, \$59.95; paper, \$24.95.

Multiphase Science and Technology. Vol. 1. G. F. Hewitt, J. M. Delhay, and N. Zuber, Eds. Hemisphere, Washington, D.C., 1981. xiv, 514 pp., illus. \$49.75.

Mutagenicity Testing and Related Analytical Techniques. Papers from a symposium, Dortmund, Germany, May 1980. R. W. Frei and U. A. Th. Brinkman, Eds. Gordon and Breach, New York, 1981. x, 320 pp., illus. \$46.50. Current Topics in Environmental and Toxicological Chemistry, vol. 3.

National Geographic Atlas of the World. National Geographic Society, Washington, D.C., ed. 5, 1981. 386 pp. \$44.95.

A Natural Collection. Steven C. Wilson and Karen C. Hayden. Entheos Books, Bainbridge Island, Wash., 1981 (distributor, National Audubon Society, New York). 218 pp., illus. Paper, \$10.

Psychological Reactance. A Theory of Freedom and Control. Sharon S. Brehm and Jack W. Brehm. Academic Press, New York, 1981. xiv, 432 pp. \$36.50.

The Psychology of Literacy. Sylvia Scribner and Michael Cole. Harvard University Press, Cambridge, Mass., 1981. xiv, 336 pp., illus. \$25.

Puzzles, Problems and Enigmas. Occasional Pieces on the Human Aspects of Science. John Ziman. Cambridge University Press, New York, 1981. x, 374 pp. \$24.95.

Qualitative Analysis of Physical Problems. M. Gitterman and V. Halpern. Academic Press, New York, 1981. xiv, 274 pp., illus. \$24.50.

Research in British Universities, Polytechnics and Colleges. British Library, Wetherby, West Yorkshire, ed. 2, 1981. Vol. 1, Physical Sciences. xiv, 886 pp. Paper, £30. Vol. 2, Biological Sciences. xiv, 782 pp. Paper, £20.

The Role of Mathematics in the Rise of Science. Salomon Bochner. Princeton University Press, Princeton, N.J., 1981. x, 386 pp. Paper, \$6.95. Reprint of the 1966 edition.

Sexuality and Aging. An Annotated Bibliography. George F. Wharton III. Scarecrow Press, Metuchen, N.J., 1981. viii, 252 pp. \$15.

Signals. The Telephone and Beyond. John R. Pierce. Freeman, San Francisco, 1981. x, 182 pp., illus. Cloth, \$15.95; paper, \$7.95.

Silicon in Organic Synthesis. Ernest W. Colvin. Butterworths, Boston, 1981. xii, 348 pp., illus. \$39.75. Butterworths Monographs in Chemistry and Chemical Engineering.

Singularity Theory. Selected Papers. V. I. Arnold. Cambridge University Press, New York, 1981. vi, 266 pp. Paper, \$27.50. London Mathematical Society Lecture Note Series, 53.

The Use of Radioactive Isotopes in the Life Sciences. J. M. Chapman and G. Ayrey. Allen and Unwin, Boston, 1981. xii, 148 pp., illus. Cloth, \$28.50; paper, \$12.50.

Verdict on the Shroud. Evidence for the Death and Resurrection of Jesus Christ. Kenneth E. Stevenson and Gary R. Habermas. Servant Books, Ann Arbor, Mich., 1981. xii, 224 pp. + plates. \$12.95.

VHSIC (Very High Speed Integrated Circuits) Technologies and Tradeoffs. Arpad Barna. Wiley-Interscience, New York, 1981. xiv, 114 pp., illus. \$17.50.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference.

CLASSIFIED ADVERTISING DEADLINES:
19 February issue (mailed 12 February): **29 January**
26 February issue (mailed 19 February): **5 February**
5 March issue (mailed 26 February): **12 February**
12 March issue (mailed 5 March): **19 February**

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.

DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$9 per millimeter, \$225 minimum, per insertion (minimum charge covers 25 millimeters on a single column, 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing information required for all other advertising.

Send copy for all **Positions Wanted** ads and **Display** ads less than 1/6 page in size (125 millimeters): to:

SCIENCE, Room 207
1515 Massachusetts Avenue, NW
Washington, D.C. 20005
Telephone: 202-467-4456

Send copy for **Display** ads 1/6 page and larger to:

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

Blind ad replies should be addressed as follows:

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

POSITIONS WANTED

Biochemist. Ph.D. 1965. Medical research in enzymology, lipids, prostaglandins, inborn errors of metabolism, nutrition. Extensive experience in: interdisciplinary research; acting liaison between basic and clinical science; organizing and directing laboratories; instrument application and method development. Excellent writing skills. Publications and references. Seeking challenging industrial/academic position. Box 30, SCIENCE. X

Biomedical Sciences. Ph.D., Cambridge, England. Teach: anatomy; research: membrane biology, cytoskeleton, cilia, applied EM/biochemistry to cancer, developmental biology, pollutants and carcinogens effect on cells and tissues. Seeks faculty/senior research position. Location open or Philadelphia/New Jersey. Telephone: 609-424-9651. Box 31, SCIENCE. X

Cell Biologist/Toxicologist. Ph.D. Experienced in chemical toxicology/carcinogenesis using tissue culture techniques, especially epithelial systems. Seeking faculty or senior research position in academia or industry. Box 9, SCIENCE. X

Clinical Immunologist. Ph.D., experienced in cellular immunology, histocompatibility, serum proteins, serology; research interest in autoimmune disease. Seeks clinical laboratory position, teaching, research at university or teaching hospital. Box 4, SCIENCE. 1/29; 2/12, 26

Toxicologist/Environmentalist. Ph.D. 1975. Broad undergraduate and graduate teaching experience. Basic and applied research experience with publications. Excellent references. Desires faculty, research, governmental, or industrial position on the West Coast. Box 32, SCIENCE. X

POSITIONS WANTED

ANATOMY TEACHING POSTDOCTORAL. Starting date: 1 July 1982 to September 1983. For 1 year, with probable renewal. Gain experience in teaching gross anatomy and work in the laboratory with a faculty member involved in neurobiology, endocrinology, regeneration, or muscle biology. Submit curriculum vitae to: A. Hess, Department of Anatomy, UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY-Rutgers Medical School, P.O. Box 101, Piscataway, N.J. 08854. An Equal Opportunity/Affirmative Action Employer, M/F.

ANATOMY AND CELLULAR BIOLOGY: ASSISTANT PROFESSOR

The Department of Anatomy and Cellular Biology, Tufts University Schools of Medicine, Dental Medicine and Veterinary Medicine, invites applications for a tenure-track position at the assistant professor level beginning July 1982. Applicants should hold the Ph.D. in anatomy and/or the M.D., D.M.D., or D.V.M. Applicants should be qualified to teach either gross anatomy or microscopic anatomy. Applicants should have at least 2 years of postdoctoral research experience and show promise of developing an active and independent research program. Current research areas in the department include pulmonary cell biology and metabolism, reproductive biology and neuroendocrinology, neurobiology, comparative immunology and the effects of stress on immunosuppression, and cell biology, including secretory mechanisms, cell-to-cell interactions, cell motility, and developmental mechanisms. Salary is dependent upon qualifications and experience. Applicants are invited to submit curriculum vitae, names of three references, and a letter describing research and teaching interests to: Dr. Karen R. Hitchcock, Chairman, Department of Anatomy and Cellular Biology, Tufts University Schools of Medicine, Dental Medicine and Veterinary Medicine, 136 Harrison Avenue, Boston, Massachusetts 02111. Deadline for receipt of applications is 1 March 1982.

Tufts University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR, BIOLOGICAL SCIENCES

Fordham University, Lincoln Center Campus. The EXCEL program, a unique entry program for adults, has an opening for September 1982. Prerequisite: Ph.D. in biological sciences, and prior experience teaching adults and nonscience majors. Curriculum vitae to: EXCEL Division, Room 819, Fordham University at Lincoln Center, New York, N.Y. 10023. Affirmative Action/Equal Opportunity Employer, M/F/H/V.

ASSISTANT PROFESSOR—NUTRITION

The Division of Environmental and Nutritional Sciences, University of California, Los Angeles (UCLA) School of Public Health, invites applications from qualified individuals for a tenure-track position as assistant professor in nutrition. The applicant should have a doctorate in a relevant field and a research interest in human-related nutrition problems. The successful candidate will have responsibility for developing courses, seminars and research in public health nutrition, including a laboratory course on biochemical nutrition assessment. Position will be available 1 July 1982. Curriculum vitae, bibliography, and three letters of recommendation should be submitted to: Chair, Search Committee, Division of Environmental and Nutritional Sciences, UCLA School of Public Health, Los Angeles, Calif. 90024.

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

ASSOCIATE DIRECTOR FOR RESEARCH. The University of Texas Health Center at Tyler is seeking qualified candidates for the position of associate director for research. Candidates should possess a doctorate in the medical or biomedical sciences with further postgraduate specialization in a research discipline. A record of excellence in scientific achievement and attainment of a senior faculty level or equivalent in an academic or research oriented institution, as well as a proven background in administrative roles, is required. Research interest in some facet of chest diseases is preferred. Send curriculum vitae and letter of interest to:

Search Committee
c/o Director of Personnel
The University of Texas Health Center at Tyler
Box 2003
Tyler, Texas 75710
Equal Opportunity Employer

POSITIONS WANTED

DEPARTMENT OF PHARMACOLOGY HARVARD MEDICAL SCHOOL

Two assistant professorships in the Department of Pharmacology, Harvard Medical School, are available. Both positions could be filled by July 1982. Research interests should be concerned with molecular mechanisms of the regulation of cellular function. Examples of areas of interest include virus-cell and drug-receptor interactions. The precise area of interest, however, is not as important as the approaches brought to the problem which should have a strong molecular orientation. Interested candidates should send curriculum vitae, bibliography, and names of three references to: Chairman, Search Committee, Department of Pharmacology, Harvard Medical School, 250 Longwood Avenue, Boston, Mass. 02115. *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT TO OR ASSOCIATE TO VICE PRESIDENT FOR RESEARCH

Under general direction of the vice president for research, assists in the scientific management of a program of grants for biomedical research. Reviews grant applications, corresponds with investigators, makes site visits, and performs related duties as assigned. Requires background in the biomedical sciences and communication skills. Salary commensurate with record of achievement. Curriculum vitae with current salary to:

Nancy Collins
Personnel Services Department
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, N.Y. 10605
Equal Opportunity/Affirmative Action Employer

ASSOCIATE DIRECTOR CORNELL UNIVERSITY AGRICULTURAL EXPERIMENT STATION AND ASSOCIATE DIRECTOR OFFICE FOR RESEARCH, COLLEGE OF AGRICULTURE AND LIFE SCIENCES

Cornell University invites applications and nominations for the position of associate director, Cornell University Agricultural Experiment Station, and associate director for research of the College of Agriculture and Life Sciences. The associate director of the Cornell University Agricultural Experiment Station is responsible to the director. Responsibilities include liaison and assistance to chairpersons of academic units, facilitation of interdisciplinary research, and assistance in project development and administration.

Qualifications must include: (i) an earned doctorate in agricultural or the life sciences; (ii) demonstrated research and administrative accomplishments; and (iii) ability to work effectively with research faculty.

Nominations and applications, including a résumé of professional experience and qualifications, will be received until 15 March 1982. Applications should be addressed to:

Dr. Theodore L. Hullar
Director for Research
and
Director of the Cornell University
Agricultural Experiment Station
292 Roberts Hall
Ithaca, N.Y. 14853
An Equal Opportunity/Affirmative Action Employer

HEAD, DEPARTMENT OF PHYSIOLOGY

The College of Medicine, University of Saskatchewan, is seeking applications for the position of head, Department of Physiology. Associated with the headship will be a tenure-track academic appointment. The successful candidate will be expected to provide administrative direction to a department consisting of approximately ten faculty and a similar number of support staff, to participate in the teaching program, and to provide academic leadership in the areas of undergraduate teaching, graduate teaching, and research. The appointment will be at a level commensurate with qualifications and experience. Please send inquiries or applications including curriculum vitae and the names of three referees, to: Dean R. G. Murray, College of Medicine, B103 Health Sciences Building, Saskatoon, Saskatchewan, Canada S7N 0W0. Applications are welcome until an appointment is made. While consideration will be given only to Canadian citizens and permanent residents until 15 March 1982, other applications may be considered after that date.

POSITIONS OPEN

BIOCHEMISTRY

Assistant professor beginning fall 1982. Ph.D. with good (organic and physical) background and interest in developing new biochemistry courses, including laboratory. Active researcher able to initiate projects suitable for undergraduates. Women and minorities encouraged to apply. Send résumé and outline of research interests, and arrange to have three reference letters sent to: **Chair, Search Committee, Chemistry Department, Lafayette College, Easton, Pa. 18042. An Equal Opportunity Employer, M/F.**

BIOCHEMISTRY POSITION

UNIVERSITY OF PATRAS, GREECE

The University of Patras is seeking a research oriented individual to fill a staff position in the Department of Biochemistry. A Ph.D. degree is required. For an individual with postdoctoral experience and a good publication record, this position can evolve into a tenured faculty position. Greek citizenship is required. Send résumé to: **Head, Department of Biochemistry, University of Patras, Patra, Greece.**

BIOLOGY. Full-time faculty position to begin September 1982 in the Biology Department of a Catholic liberal arts college dedicated to promoting the philosophy of Christian humanism. M.S. in biology is required; the Ph.D. is preferred. Teaching responsibilities will include microbiology, pathogenic bacteriology, immunology, and botany. Candidate must be committed to undergraduate education and possess sufficient background and flexibility to provide elective courses. Salary and rank dependent upon experience and background. Send résumé, transcripts, and three letters of recommendation by 15 February 1982 to: **Dr. Franc E. Del Fosse, Acting Chair, Department of Biology, Allentown College of St. Francis de Sales, Center Valley, Pa. 18034.**

BOTANIST. Ph.D., preferably with postdoctoral and/or teaching experience, for an anticipated tenure-track opening at Wells College beginning September 1982. We seek a candidate with broad experience in botany to teach plant growth, plant morphology, plant taxonomy, and courses for nonmajors such as geology, humanistic botany, and agriculture and the environment. We anticipate making the appointment at the assistant professor level. Send curriculum vitae, transcripts, a statement of teaching and research goals, and three letters of recommendation by 15 March 1982 to: **Dr. A. Thomas Vawter, Department of Biology, Wells College, Aurora, N.Y. 13026. Wells College is an Equal Opportunity/Affirmative Action Employer.**

CELL PHYSIOLOGIST DIVISION OF BIOLOGICAL SCIENCES College of Agriculture and Life Sciences CORNELL UNIVERSITY, ITHACA

Applications are invited for a tenure-track position as assistant professor in the Section of Physiology (fall 1982). Responsibilities include a major role in the new undergraduate lecture/laboratory course cell physiology (spring semester), participation in the graduate field of physiology, and an active research program in some aspect of functional regulation at the cellular level preferably with application to animal health. Excellent opportunities for collaboration exist in the Department of Animal Science, the College of Veterinary Medicine, and other sections of the Division of Biological Sciences. Send complete curriculum vitae, including evidence of potential for teaching excellence and a description of current and future research programs, and have three letters of recommendation sent directly to: **Klaus W. Beyenbach, Chairman, Search Committee, VRT 826, Cornell University, Ithaca, N.Y. 14853, before the closing date: 15 March 1982. Cornell University is an Affirmative Action/Equal Opportunity Employer.**

DIRECTOR. Center for Environmental Studies; for research, teaching, and administration in a multidisciplinary program presently emphasizing plant chemistry and microbiology, pesticide use, wastewater treatment, and the chemistry of natural products. Earned doctorate in natural science and at least 5 years of relevant experience required. Tenure-track appointment, September 1982, as associate or full professor at Bemidji State University in north central Minnesota. Salary competitive. Send résumé, academic transcripts, and three letters of reference by 1 March 1982 to:

**Dr. F. M. Saccoman, Dean
Division of Science and Mathematics
Bemidji State University
Bemidji, Minn. 56601
Equal Opportunity/Affirmative Action Employer**

POSITIONS OPEN

BIOCHEMISTS—MOLECULAR BIOLOGISTS

Tenure-track faculty positions at assistant and associate professor levels. Candidates should be interested in developing strong and independent research with long-term growth potential on the mechanisms of gene expression at the molecular level in either prokaryotic or eukaryotic systems. This area may be interpreted broadly from chemical-physical to genetic interests. Teaching includes medical, dental, and graduate students at sizable and rapidly expanding medical complex. Biochemistry department with excellent new facilities is undergoing substantial expansion. Salary commensurate with experience and competitive. Curriculum vitae, brief statement of present and future research interests, and three letters of recommendation should be sent to: **Dr. Robert D. Wells, Chairman, Department of Biochemistry, University of Alabama—Birmingham, Schools of Medicine and Dentistry, University Station, Birmingham, Alabama 35294. An Equal Opportunity/Affirmative Action Employer.**

DIRECTOR—CINDAS (Center for Information and Numerical Data Analysis and Synthesis), Purdue University. Applications and nominations are invited for the position of director of the Center for Information and Numerical Data Analysis and Synthesis, Purdue University, West Lafayette, Indiana. CINDAS is a multifunded research center with about 30 staff members under the Schools of Engineering. It was founded in 1957 and has achieved a worldwide reputation as a specialized center for the continuing and systematic identification, compilation, critical evaluation, correlation, analysis, and synthesis of numerical data on the thermophysical, electronic, optical, magnetic, and other properties of materials. Candidates should have an earned doctorate in engineering or science and have an established reputation that will qualify for a tenure-track faculty appointment at the professorial level in the appropriate department or school. A proven ability and previous experience in acquiring research support is required. A strong interest in research on material properties, a talent for management and administration, and a record of published research accomplishments are desirable. Applications and nominations will be received through 15 March 1982 and should be directed to: **Winfred M. Phillips, Chairman, Select Committee, School of Mechanical Engineering, Purdue University, West Lafayette, Indiana 47907. Purdue University is an Equal Opportunity/Affirmative Action Employer.**

ENTOMOLOGY. Three positions (insect physiology, pest management, and insect morphology), each 12-month, tenure-track positions. Interested persons should contact: **T. J. Helms, Head, Department of Entomology, Mississippi State University, Drawer EM, Mississippi State, Miss. 39762 (telephone: 601-325-3243), for additional information. Mississippi State University is an Affirmative Action/Equal Opportunity Institution.**

FACULTY POSITIONS IN MICROBIOLOGY

To enhance our state's position as a leader in energy research, The University of Oklahoma invites applications for three tenure-track faculty positions in microbiology. The appointment level is open and senior scientists are encouraged to apply.

- 1) **Plasmid Geneticist** to develop an active research program in the function, expression, or control of plasmid DNA using recombinant DNA technology.
- 2) **Microbial Physiologist** to develop an active research program using modern molecular, biochemical, or biophysical techniques in the study of microbial physiology.
- 3) **Applied Microbiologist** to develop an active research program in areas of applied or industrial microbiology related to energy or environmental problems.

The successful candidates will have a Ph.D. with a strong background in the appropriate field of microbiology, postdoctoral experience, and the ability to conduct independent research as evidenced by publication record. Applicants with established research programs are encouraged to apply. The successful candidates will be expected to procure extramural funds for research in energy-related areas, participate and teach in the undergraduate program in microbiology, and develop advanced courses in specialty areas. Please submit curriculum vitae, statement of research interests, and three letters of reference by 1 March 1982 to: **Michael J. McInerney, Department of Botany and Microbiology, The University of Oklahoma, 770 Van Vleet Oval, Norman, Okla. 73019. The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR. Tenure-track position, available fall 1982. To teach virology, hematology, general biology, and molecular biology; develop a senior level molecular biology course to prepare for study in the field, including genetic engineering; teach topically oriented graduate courses in his/her field; advising; committee work. Ph.D. in biology required. Deadline for application is 15 February 1982. Send letter of application, transcripts, and three letters of reference to: **Dr. Joe Powell, Chair, Department of Biology, Sonoma State University, Rohnert Park, Calif. 94928. An Affirmative Action/Equal Opportunity Employer.**



GENETICISTS

SYNERGEN, an established biotechnology firm with laboratories in Boulder, Colorado, is expanding its scientific staff. We seek exceptional individuals with broad interests and records of imaginative research who will enjoy a vigorous and interactive research environment. We are particularly interested in postdoctoral scientists with the following qualifications:

GENETICISTS with extensive experience in modern microbial genetic methods, in any organism.

We offer competitive salaries, liberal benefits, and an exceptional scientific and living environment. To apply in confidence, please submit a résumé, a statement of your research interests, and a bibliography or reprints to:

**Recruitment Director
SYNERGEN ASSOCIATES
1885 33rd Street
Boulder, Colo. 80301**

**University of Miami
Rosenstiel School of Marine and
Atmospheric Science
Division of Marine Geology and Geophysics**

It is planned to fill the following tenure-track faculty positions at the associate or assistant professor level.

MICROPALAEONTOLOGY

One position will be offered to a person whose research interests are in some aspect of the micropaleontology of pelagic or slope-rise sediments. This could be in biostratigraphy, paleoclimatology, or other related fields. The prospective faculty member will be responsible for graduate level teaching in micropaleontology and biostratigraphy and may also develop teaching programs in his or her own specialty.

MARINE GEOPHYSICS/TECTONICS

One position will be offered to a person whose research interests are in some aspect of the geophysics of the ocean floor or the continental margins. The prospective faculty member will be expected to teach graduate level courses in some aspect of exploration geophysics or tectonics.

A Ph.D. degree is required for both positions. Postdoctoral or other experience involving research is desirable. Please send curriculum vitae and names of three referees to: **Dr. C. G. A. Harrison, Rosenstiel School of Marine and Atmospheric Science, 4600 Rickenbacker Causeway, Miami, Florida 33149. The University of Miami is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION available for Ph.D. to work on **SPINAL REGULATION OF MOVEMENT**. Particular research areas include neurophysiology of spinal interneurons, and functional roles of fusimotor innervation of muscle spindles. Background in neurophysiology, neuroanatomy, or bioengineering would be appropriate. Salary commensurate with experience. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. W. Z. Rymer, Associate Professor of Physiology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Ill. 60611. Equal Opportunity Employer.**

POSITIONS OPEN

The University of Michigan, School of Natural Resources, is seeking applicants to fill a full-time, tenure or tenure-track position, at a level commensurate with qualifications, for the **GEORGE WILLIS PACK ENDOWED CHAIR IN NATURAL RESOURCES ECONOMICS**. The primary focus is forest economics directed toward the management of forest and forest-related resources. It is expected that the position will be filled by 1 September 1982.

Applications should be sent to: **William J. Johnson, Dean, School of Natural Resources, The University of Michigan, Ann Arbor, Mich. 48109**. Closing date: 15 March 1982 for initial review. Applications will be welcomed until the position is filled.

A nondiscriminatory, Affirmative Action Employer

FACULTY POSITION IN PHARMACOLOGY

The Department of Pharmacology of East Carolina University (ECU) seeks applications for a tenure-track position at the level of assistant professor. Applicants must have a relevant Ph.D. or M.D. degree, postdoctoral training, and a commitment to a career in independent research, but preference will be given to those involved in research involving central or peripheral transmitters. Send curriculum vitae and three letters of reference to: **Dr. W. R. Wooles, Chairman, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, North Carolina 27834**.

ECU is an Equal Opportunity Employer through Affirmative Action.

FACULTY POSITION

**Department of Technology and Human Affairs
School of Engineering and Applied Science
Washington University, St. Louis**

One or two faculty positions (either regular or visiting) may be available summer or fall 1982. Ph.D. and some background in engineering or applied science required. Strong record of research productivity and support desirable. Areas of emerging interest to department include management of technology, biotechnology, arms control/disarmament, impacts of computers and communications technology, applied computer modeling and simulation. Rank and salary dependent upon qualifications. Send résumé before 1 March 1982 to: **Dr. Robert P. Morgan, Chairman, Department of Technology and Human Affairs, Box 1106, Washington University, St. Louis, Mo. 63130**. *An Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF OKLAHOMA COLLEGE OF MEDICINE

Applicants are solicited for **FACULTY POSITIONS** in the following departments:

PATHOLOGY—(Number 343) Assistant professor/associate professor—anatomic pathologist. Perform surgical pathology at affiliated hospitals. Board-certification in anatomic pathology and advanced training or experience in surgical/hematopathology. (Number 344) Associate professor/professor—director, surgical pathology. Direct surgical pathology service at university hospital. Board-certification in anatomic pathology, 4 years of experience and/or additional training in surgical/tumor pathology.

MEDICINE—(Number 347) Associate professor/professor. Should be Board-eligible in internal medicine with experience in clinical aspects of rheumatic diseases. Laboratory training and publications in immunological areas desirable. Should be capable of carrying out independent investigative program in some immunological aspects of the connective tissue diseases.

Applicants should send curriculum vitae identifying vacancy number for which they are applying to: **O. C. Coleman, Assistant Dean, College of Medicine, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Okla. 73190**. *We are an Equal Opportunity Employer.*

MOLECULAR BIOLOGY OF CELLULAR AGING

Applications are invited for a tenure-track position as **assistant professor** in a dynamic, interactive research environment centered on molecular/genetic studies of cellular aging. Preference given to those with background in genomic organization and expression, or related areas. Apply with curriculum vitae and names and addresses of three references to: **Dr. Samuel Goldstein or Dr. Robert Shmookler, Reis Slot 604, Departments of Medicine and Biochemistry, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72205**.

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, chemistry, biochemistry or microbiology related to dairy products. To assure consideration, the application should be received by 15 March 1982. Apply to: **R. M. Pangborn, Food Science and Technology Department**.

Assistant professor, food engineer. To assure consideration, the application should be received by 1 April 1982. Apply to: **R. L. Merson, Food Science and Technology Department**.

Professorial position (open at all ranks) in **experimental nutrition**. Research and teaching in the areas metabolic regulation and human nutrition. Apply to: **J. Stern, Department of Nutrition**, by 1 June 1982.

These positions are to be filled at the assistant professor, 11-month salary level (unless other rank is indicated above) and are available effective 1 July 1982. The positions have responsibilities for both teaching 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), and the names and addresses of at least three persons familiar with the applicant's qualifications to: **Department and individual noted for position, University of California, Davis, Calif. 95616**. Please indicate the position in which you are interested. The completed application should be received by date indicated above 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.*

METEOROLOGY at PENN STATE

The Department of Meteorology at The Pennsylvania State University seeks applications and nominations for faculty positions in dynamic and synoptic meteorology.

The department desires to strengthen its capabilities in mesoscale analysis, modeling, and prediction, in atmospheric turbulence, and in planetary boundary layer modeling. University-funded tenure-track and fixed-term positions are available; rank and salary are open and will be adjusted in accordance with the qualifications, experience, and reputation of successful candidates.

The department administers programs leading to B.S., M.S., and Ph.D. degrees, a variety of research programs, and service programs that provide meteorological information to users throughout the Commonwealth. Faculty members are expected to be competent teachers who can stimulate students from the level of introductory service courses through graduate seminars. They are expected to develop their own research programs or collaborate with existing programs; the department seeks applicants who demonstrate a record of superior accomplishment or the potential for significant scholarly achievement.

Tenure-track salaries are for 9 months, with supplementary compensation available to those who secure research support. An attractive benefit program is available.

Applications or nominations will be received through 15 March 1982 by:

**Dr. John A. Dutton, Head
Department of Meteorology
The Pennsylvania State University
503 Walker Building, Box A
University Park, Pa. 16802**

Supporting information, such as curriculum vitae, reprints, and names of references, will be helpful. *The Pennsylvania State University is an Equal Opportunity/Affirmative Action Employer.*

ASSOCIATE PROFESSOR

For a faculty opening in the Department of Nuclear Engineering at the Massachusetts Institute of Technology (MIT). Position involves teaching, thesis supervision, and independent research in the areas of experimental plasma physics, experimental systems design, plasma diagnostics, and plasma physics relevant to fusion systems development—divertors, RF heating, and so forth.

Research will be carried out in the MIT Plasma Fusion Center. Involvement with the ALCATOR Experimental Program is offered, and participation in other existing or new experimental programs is possible. Initial appointment may carry tenure.

Please submit curriculum vitae to:

**Professor Neil E. Todreas
MIT—24-108
77 Massachusetts Avenue
Cambridge, Mass. 02139**

MIT is an Equal Opportunity/Affirmative Action Employer.

MIT

POSITIONS OPEN

IMMUNOLOGIST McMASTER UNIVERSITY

Applications are invited for a tenure-track position in the immunology group in the Department of Pathology at McMaster University. Candidates must have a M.D. or Ph.D. degree and postdoctoral experience. Preference will be given to established investigators who are Canadian citizens or landed immigrants. Successful candidates are expected to establish an independent research program, interact with existing groups, and participate in teaching.

Rank and salary are commensurate with position. Candidates should forward their curriculum vitae, a description of research interests, and three letters of recommendation to:

Dr. J. Bienenstock, Chairman
Department of Pathology
Room 2N16, McMaster University Medical Centre
Hamilton, Ontario, Canada L8N 3Z5

MICROBIOLOGIST/CHEMIST

BRISTOL LABORATORIES of Syracuse, N.Y., is seeking a microbiologist/biochemist to become a member of a research group involved in the development of new drugs useful for treatment of infectious diseases. The candidate must have knowledge and experience in bacterial cell wall biochemistry and in modern recombinant DNA techniques in both bacterial and mammalian cell systems. The ability to isolate and purify enzymes, particularly membrane bound forms with development of the attendant assay procedures is essential. The candidate must possess a Ph.D. in microbiology or biochemistry with 3 to 5 years of postdoctoral or appropriate work experience and a record of publication and/or patent in the field. Salary commensurate with experience. Send résumés to: Terry Meyers, Manager of Employment, **BRISTOL LABORATORIES**, P.O. Box 657, Syracuse, N.Y. 13201. An Equal Opportunity Employer, M/F.

MUSEUM: DIRECTOR. The Chicago Academy of Sciences seeks a specialist in the fields of natural history and ecology to serve as its director beginning by September 1982. The successful applicant will have the Ph.D. degree, experience in the design of museum exhibits and administration, as well as interest in ongoing field research, preferably ornithology. The Chicago Academy of Sciences was founded in 1857 and is one of the oldest scientific institutions in the Midwest. *The Chicago Academy of Sciences is an Equal Opportunity Employer.*
Box 33, SCIENCE

NEUROSCIENTIST—ASSISTANT PROFESSOR. Tenure-track position in the Department of Anatomy. Teaching responsibilities in neuroanatomy and either gross anatomy or histology. Applicant should expect to develop an independent research program and seek external funding. Qualifications: Ph.D. with postdoctoral research experience, commitment to quality teaching, and research in the neurosciences. Send curriculum vitae, a statement of research and teaching interests, and three references to: Chairman, Department of Anatomy, Daniel Baugh Institute of Anatomy, Jefferson Medical College, Thomas Jefferson University, Philadelphia, Pa. 19107. *The University is an Affirmative Action/Equal Opportunity Employer.*

The Louisiana State University Medical Center (LSUMC) in New Orleans has positions available for **PHARMACOLOGISTS**. These are tenure-track positions with research and teaching responsibilities. Candidates should have Ph.D. or M.D. teaching experience, be able to set up an independent research program and obtain grant support. Send your curriculum vitae, summary of research objectives, and names of three references to: Dr. Lynn Wecker, Chairperson, Faculty Search Committee, Department of Pharmacology, LSUMC, 1901 Perdido Street, New Orleans, Louisiana 70112. *LSUMC is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL OR M.S. RESEARCH POSITION available immediately (1 year, possibly 2 or 3; grant fundings) for a specific project on immunologic characterization of bacteria and viruses. Experience with cell cloning, tissue culture, immunoelectrophoresis, radiolabeling, other immunologic methods, and expertise in bacterial and/or viral culture methods highly desirable. Send résumé and transcripts to: Department of Microbiology, College of Medicine, P.O. Box 19870A, East Tennessee State University, Johnson City, Tenn. 37614. Salary dependent upon education and experience. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MOLECULAR BIOLOGISTS

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

Helicon Foundation
11095 Torreyana Road
San Diego, Calif. 92121

PHYSIOLOGIST

A tenure-track position at the rank of assistant professor is available in the Department of Physiology and Biophysics of the University of Tennessee Center for the Health Sciences. Candidates should have a Ph.D. or M.D. degree, a minimum of 2 years of postdoctoral training, and a strong research background in physiology. We require demonstrated ability in one of the following areas: cardiovascular physiology, neural or endocrine control of cardiovascular function, endocrine control of metabolism; to engage in the teaching activities of the department and to initiate a strong, independent research program. Send curriculum vitae, a brief statement of research interests, and the names of three references to: Dr. Leonard Share, Chairman, Department of Physiology and Biophysics, University of Tennessee Center for the Health Sciences, Memphis, Tennessee 38163. *An Equal Opportunity/Affirmative Action Employer.*

PLANT PHYSIOLOGIST

Applications are requested for a tenure-track position (11-month appointment) in the Department of Botany and Plant Sciences, College of Natural and Agricultural Sciences, University of California, Riverside, with research responsibility in the 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, independent research program with major emphasis on fruit development, maturation, and senescence. Teaching responsibilities will include courses in both undergraduate and 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. John W. Einset, Chairman, Plant Physiologist Search Committee, Department of Botany and Plant Sciences, University of California, Riverside, Calif. 92521. Application deadline is 15 March 1982 or later, if a suitable applicant has not been selected.

An Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL ASSOCIATE position available for 18 months starting immediately, for ongoing project using primary CNS cell cultures as models for brain development. Experience with hybridoma, cell culture, 2-D gel, and immunoblotting techniques desirable. Salary: \$13,380 to \$17,040, depending upon experience. Send curriculum vitae and three letters of recommendation to: Dr. Gary R. Dutton, Department of Pharmacology, University of Iowa, Iowa City, Iowa 52242. *An Equal Opportunity/Affirmative Action Employer.*

POSITION AVAILABLE for a

RESEARCH ASSISTANT in a molecular biology laboratory studying eukaryotic gene structure and expression. B.S. degree in biology or chemistry and background in biochemistry, biological sciences, microbiology, and molecular biology required. Preference given to applicants with experience in some of the following areas: gel electrophoresis techniques, nucleic acids procedures, DNA sequencing, microbiological procedures, tissue culture, general chemistry procedures, and familiarity with general laboratory equipment.

Five-day, 37½-hour work week. Liberal fringe benefits. Applicants must send college transcripts, résumé, and names of three references to: Personnel Office, Trudeau Institute, Inc., Box 59, Saranac Lake, N.Y. 12983.

POSITIONS OPEN

MOLECULAR BIOLOGISTS— RECOMBINANT DNA

Several tenure-track positions for molecular biologists exist starting September 1982 at the assistant professor or more senior level. Applicants must have 2 years of postdoctoral training and be capable of establishing strong, creative, and independent research programs utilizing recombinant DNA technologies. Responsibilities include undergraduate and graduate instruction in the area of expertise. Send curriculum vitae, in-press manuscripts, copies of three representative publications, statement of research goals, and a list of three references by 1 March 1982 to:

Chairperson, Molecular Biology Search Committee
College of Sciences
San Diego State University
San Diego, California 92182

San Diego State University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE

Two positions are available in the spring/summer 1982 to study the synthesis and degradation of cell surface receptors of pharmacological interest. An important component of the work involves studies of the mechanism of catecholamine-induced down regulation of β -adrenergic receptors. Experience in the techniques of protein purification, mammalian cell culture, and the study of protein-ligand interactions is desirable. Salary will be based on years of relevant experience. Please send curriculum vitae and the names and addresses of three references to either: Dr. John P. Perkins or Dr. T. K. Harden, Department of Pharmacology, University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27514. *The University of North Carolina is an Equal Opportunity/Affirmative Action Employer and specifically invites and encourages applications from women and minorities.*

RESEARCH SCIENTISTS

Biogenex, a biotechnology company located in the San Francisco Bay area, is expanding its scientific staff. We seek imaginative researchers with broad interests in the following areas:

Microbial Genetics
Microbial Physiology
Cell Biology
Hybridoma Technology
Immunology
Protein Chemistry
Biochemistry

We currently have opportunities for project leaders, research scientists, postdoctoral fellows, and research associates to join our active and growing teams in the biotechnology field.

Scientists at Biogenex maintain close association with academic institutions through the company's Scientific Advisory Board. The company offers competitive compensation, a bonus, opportunity for career advancement, and participation in our stock option program.

We invite you to submit your résumé, in confidence, to:

BIOGENEX LABORATORIES

6529 Sierra Lane
Dublin, Calif. 94566

THEORETICAL ATOMIC PHYSICIST to conduct original independent theoretical research in atomic collision theory, heavy ion collision, atomic fusion, and atomic structure. Comparison of mathematical calculation with experimental results. Ph.D. in physics and knowledge of theory of numerical calculations. Must have some experience with IBM 360/370; some prior publication and 1 year of prior research experience in the area of atomic theory; \$16,000 per year.

Send résumés to:

Job Service of Nebraska
303 North 52 Street
P.O. Box 5200
Lincoln, Nebraska 68505

INGENE

Positions are available for scientists at all levels with skills in:

**CELL BIOLOGY
HISTOLOGY
ANALYSIS OF BONE DEVELOPMENT**

INGENE (International Genetic Engineering, Inc.) is a young and rapidly growing company creating industrial, agricultural and biomedical products through genetic engineering. Opportunities exist for qualified Ph.D.s with experience in the above areas to pursue exciting, scholarly research with biomedical relevance. We also seek technical personnel with skills in the same areas. We offer competitive salaries, opportunities for equity participation and excellent fringe benefits.

INGENE has attractive laboratory facilities in the coastal community of Santa Monica, California; one of the most desirable living areas in Southern California.

Please send resumé and a list of three references to:

**Human Resources Department
INGENE
1701 Colorado Avenue
Santa Monica, CA 90404**

INGENE is an equal opportunity employer.

POSTDOCTORAL ASSOCIATES

The Department of Nutrition and Food Science at the Massachusetts Institute of Technology (MIT) seeks two postdoctoral associates.

The first is needed for work on the development of a novel, immobilized enzyme system to remove potentially toxic chemicals, such as heparin, in extracorporeal therapy. Chemical and animal studies will be conducted. Candidates should have a Ph.D. or M.D. degree. A background in biomedical engineering, chemical engineering, biomaterials, biology or chemistry desirable (Job Number C053).

The second position involves work on synthesizing a new class of biodegradable polymers for drug delivery. A Ph.D. is required, while a background in polymer chemistry, organic chemistry, or materials science is desirable (Job Number C054).

Please submit resumé, referencing the appropriate Job Number, to:

**Patricia Williams
MIT Personnel Office
E19-239**

**77 Massachusetts Avenue
Cambridge, Mass. 02139**

MIT is an Equal Opportunity/Affirmative Action Employer.

Department of Biological Sciences ST. JOHN'S UNIVERSITY, New York

The Department of Biological Sciences, with masters and doctoral programs, invites applications from Ph.D.'s for two tenure-track positions.

1) **Expertise:** neurophysiology involving rodents or other small vertebrates. Teaching at the undergraduate level may be required, but candidate will be expected to develop graduate courses.

2) **Expertise:** yeast genetics or membrane biology preferred but other research interests considered. Candidate expected to teach undergraduates and develop graduate courses.

For position #1: Full Professor (minimum ten years teaching experience) presupposes wide recognition of scholarly activities as manifested through publications and funded research, or Associate Professor (six years teaching and research required).

For position #2: Associate (as above) or Assistant Professor (three years postdoctoral teaching required).

Successful applicants expected to continue research productivity and seek external research support.

Salary commensurate with experience.

Applicants may submit a curriculum vitae, area of research interest, record of extramural support, and three references to: Dr. Michael A. Pisano, Chairman, Department of Biological Sciences, St. John's University, Jamaica, NY 11439
AN EQUAL OPPORTUNITY EMPLOYER—M/F

MOLECULAR BIOLOGIST

The Upjohn Company, Kalamazoo, Michigan, has an opening for a MOLECULAR BIOLOGIST to participate in a research program on molecular biology of eukaryotic genes. This position will be part of the growing Molecular Biology Unit which interacts with scientists throughout The Upjohn Company.

This position requires a BS or MS degree in microbiology, biochemistry, or equivalent field, plus experience in recombinant DNA technology, nucleic acid biochemistry, and/or cell culture techniques.

Kalamazoo is a mid-sized Southwestern Michigan community offering an excellent mix of cultural/recreational opportunities including lakes, nearby colleges, and a four-season climate. The Upjohn Company offers an excellent salary, benefits, and relocation plans.

For confidential consideration, please send your resume and transcripts to:

**Lance D. Williams (13977-J)
5044-41-1**

Upjohn

**The Upjohn Company
Professional/Supervisory
Employment
7000 Portage Road
Kalamazoo, Michigan 49001**

An Equal Opportunity Employer M/F

Title: ASSISTANT PROFESSOR OF WILDLIFE BIOLOGY AND MANAGEMENT.

Duties:

- 1) **Teaching:** One undergraduate course in wildlife biology in the forestry major and one graduate course in the area of specialty of the candidate. In addition, the applicant would participate in a summer field course. Advise graduate student research projects in the applicant's area of expertise.
- 2) **Research:** Conduct projects on birds as biological components of wildland communities and ecosystems. Determine the effects of land management practices on the species composition, distribution, and abundance of birds. The applicant will be expected to pursue a vigorous program of scholarly research. The appointee is expected to maintain relationships with agency personnel and faculty colleagues in other departments.
- 3) **Administration:** Undergraduate and graduate student advising and service on academic and administrative committees.

Qualifications:

Ph.D. degree in wildlife biology or management, or closely allied field. Population dynamics and modelling skills are desired. Preference will be given to applicants with strong quantitative skills such as statistics, modelling, and computer use. Strong interest in professional education and wildland resource management also desirable.

Salary and Rank:

Pending budgetary approval, an 11-month appointment (25 percent teaching, 75 percent research) in the Department of Forestry and Resource Management and the California Agricultural Experiment Station, at the assistant professor level; tenure-track. Salary will be dependent upon qualifications and experience.

Applications:

Applications will be considered if received prior to 15 March 1982. A letter of application, resumé, list of publications, academic transcripts, and the names of three or more persons as references should be sent to:

**Chairman of Search Committee (Wildlife Biology)
Department of Forestry and Resource Management
145 Mulford Hall
University of California
Berkeley, California 94720**

Interested persons are invited to obtain additional information on the position by telephoning (collect) to: 415-642-0376.

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

POSITIONS OPEN

POSTDOCTORAL POSITION. Enzymologist needed to study the kinetics of nitrogenase reactivity toward N_2 and alternative substrates and its interaction with physiological electron donors. Successful applicant will be part of an interdisciplinary N_2 fixation team. Send curriculum vitae and three letters of recommendation to: **Dr. B. K. Burgess, C. F. Kettering Research Laboratory, 150 East South College Street, Yellow Springs, Ohio 45387.** We are an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE available for a minimum of 2 years to study antigenic determinants of human bladder cancer. Monoclonal laboratory experience preferred. Seek recent Ph.D. in immunology or pathology, and working knowledge of developing short-term tissue culture line preferred. Send curriculum vitae and the names of three references to: **Dr. Richard Babaian, Department of Urology, University of Arkansas, 4301 West Markham, Little Rock, Ark. 72205.** An Equal Opportunity Employer.

RESEARCH ASSOCIATE position in reproductive biochemistry. Research involves the regulation of the proacrosin-acrosin proteinase system in sperm and includes active site characterization, mechanisms of action, membrane-protein interactions, and synthesis of enzyme inhibitors. Send curriculum vitae and names and addresses of three references to: **Dr. Kenneth Polakoski, Washington University, 4911 Barnes Hospital, St. Louis, Missouri 63110.** An Equal Opportunity/Affirmative Action Employer, M/F/H.

RESEARCH ASSOCIATE to study regulation of storage protein gene expression in wheat. Competence in plant physiology and molecular biology (including recombinant DNA technique) desired. Salary: \$23,566. One-year appointment, with possibility of renewal, available about March 1982. Send résumé and three letters of recommendation to: **Dr. Franck C. Greene, Western Regional Research Center, U.S. Department of Agriculture, 800 Buchanan Street, Berkeley, Calif. 94710.** An Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE (Postdoctoral Fellow)

The Medical Research Laboratory has a position available immediately for recent Ph.D. or M.D. to work on immunochemical characterization of cancer-associated isoenzymes. Candidates with experience in two of the following areas will be considered: chromatography, monoclonal antibodies, cell and tissue culture, development of enzyme immunoassay. Salary range: \$15,300 to \$18,360 per year. Riverside Methodist Hospital offers an excellent benefits package, including major medical and dental insurance, hospital-sponsored day care center, and free parking. Interested persons should send their résumés and three letters of reference to: **Dr. D. Munjal, c/o Department of Personnel, Riverside Methodist Hospital, 3535 Olentangy River Road, Columbus, Ohio 43214.** An Equal Opportunity Employer.

RESEARCH NEUROSCIENTIST—A position is available immediately for a Ph.D. with 1 to 4 years of postdoctoral experience in an area relevant to cerebrovascular diseases with expertise in autoradiography. The person selected will hold a joint academic appointment in the Departments of Physiology and Clinical Neurological Sciences and is expected to obtain independent research funding. Submit curriculum vitae and names of three referees to: **Dr. F. R. Calaresu, Department of Physiology, University of Western Ontario, London, Ontario, Canada N6A 5A5.**

The Department of Preventive Medicine and Biometrics, School of Medicine, Uniformed Services University of the Health Sciences, Bethesda, Md., is seeking applicants for the following position:

TEACHING/RESEARCH ASSOCIATE DIVISION OF EPIDEMIOLOGY

Minimum qualification is the M.P.H. with experience in teaching and research. Responsibilities will include application of epidemiological, biostatistical, and demographic methods in research studies, some teaching, and assistance in curriculum development. Incumbent will supervise medical students and graduate students at the tutorial level. Contact: **Chairman, Department of Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20014; telephone: 202-295-3170.**

The Uniformed Services University of the Health Sciences is an Equal Opportunity Employer.

CONFERENCE

GENETIC ENGINEERING OF PLANTS

An International Conference

15 to 19 August 1982

University of California, Davis Campus
Davis, California

SPEAKERS: 26 Internationally
Recognized Authorities

CO-CHAIRS:

Carole Meredith, Department of Viticulture
Tsune Kosuge, Department of Plant Pathology
College of Agricultural and Environmental Sciences
EMPHASIS WILL BE ON:

Somatic cell genetics as a tool for the rapid selection of new plant varieties, development of vectors for delivery of new plant genes, molecular cloning of plant genes, limitations to crop production and quality, overview of plant breeding and molecular biology, specific problems concerned with plant improvement. A poster session will be open to conference participants.

FOR FURTHER INFORMATION AND A DETAILED BROCHURE, CONTACT:

Carroll Miller
The College of Agricultural and
Environmental Sciences
228 Mrak Hall
University of California, Davis
Davis Campus
Davis, California 95616

The University of California at Davis is an Equal Opportunity Employer.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS

Postdoctoral fellowships to begin 1 July 1982 are available in the Division of Metabolism and Nutrition, Department of Medicine, Columbia University.

Interdisciplinary training in basic research and/or clinical investigation is available in the following: lipid and lipoprotein metabolism, hyperlipidemia, platelet and coagulation biochemistry and disease, biomathematics and computer modeling, regional myocardial blood flow and coronary circulation, electrophysiology and arrhythmias, vitamin A and retinol binding protein metabolism.

The requirements are an M.D. or Ph.D. or equivalent and U.S. citizenship or permanent residency. Annual salaries are standard NIH postdoctoral stipends plus supplement. Submit applications to:

DeWitt S. Goodman, M.D.
Division of Metabolism and Nutrition
Department of Medicine
Columbia University
630 West 168 Street
New York, New York 10032

POSTDOCTORAL FELLOWSHIPS in environmental toxicology available summer 1982. These are institutional fellowships funded by an NIH-sponsored training grant. Strong background in basic biomedical sciences preferred. Wide choice of research training experiences available, including neurobehavioral, carcinogenic, inhalational, renal, reproductive, and biotransformational aspects of toxicology. To apply or obtain further information, write: **Dr. P. B. Hammond, Department of Environmental Health, University of Cincinnati Medical Center, Cincinnati, Ohio 45267.** An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIP to study membrane structure and function of leukocytes and/or erythrocytes in persons with Huntington's chorea. Background in analytical biochemistry with interest in membrane structure and immunology preferable. Submit letter of application, curriculum vitae, and the names of three references by 15 March 1982 to: **Dr. Arthur Falek or Dr. John Madden, Department of Psychiatry, Emory University, Atlanta, Ga. 30322.** Telephone: 404-894-5951. An Equal Opportunity/Affirmative Action Employer.

FELLOWSHIPS available 1 July 1983 at St. Jude Children's Research Hospital, Memphis, Tenn., for physicians or basic scientists: David A. Karnofsky Fellowship for training beyond postdoctoral level in cancer research and Leon J. Journey Fellowship for postdoctoral training in biomedical research. Areas of training include: biochemistry, hematology-oncology, immunology, nutrition and metabolism, pathology, pharmacology, radiology, and virology. Stipends: \$13,800 to \$30,000. Open to national and international competition. Deadline: 1 September 1982. Write: **Director, St. Jude Children's Research Hospital, P.O. Box 318, Memphis, Tenn. 38101.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS IN CHEMISTRY OF PROTEIN HORMONES (2 or 3 years), beginning July 1982, or earlier. Opportunities are available for Ph.D.'s or M.D.'s interested in joining an interdisciplinary group engaged in structure-function studies of proteins. Current research involves human and animal pituitary hormones, using modern sequence technology, carbohydrate chemistry, RIA, EIA, bioassay, to study hormone structure and function, and to isolate and identify hitherto unknown pituitary proteins. Stipends are open. Send curriculum vitae and names of references to: **Dr. A. F. Parlow, Harbor-UCLA Medical Center, 1000 West Carson Street, Torrance, California 90509.**

PREDOCTORAL FELLOWSHIPS—The Biochemistry Department of University of Medicine and Dentistry—New Jersey Medical School has predoctoral fellowships available to students seeking the Ph.D. degree. Research opportunities in the areas of enzymology, intermediary metabolism in normal, differentiating, and neoplastic cells, regulation of DNA and RNA synthesis, hormone action, lipid metabolism, and membrane structure and function are available. For application forms: **UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY, Graduate School of Biomedical Sciences, Admissions Office, 100 Bergen Street, Newark, N.J. 07103.** An Equal Opportunity/Affirmative Action Employer, M/F.

POSTDOCTORAL FELLOWSHIP IN IMMUNOLOGY/IMMUNODERMATOLOGY. Opportunity to study function, kinetics, and interaction of Langerhans cells and other skin-associated lymphoid tissue. Experience in contemporary immunobiology and cell culture methodology necessary. Salary range: \$14,000 to 16,000. Send résumé to: **R. A. Daynes, Department of Pathology, or G. G. Krueger, Division of Dermatology, University of Utah School of Medicine, Salt Lake City, Utah 84132.** University of Utah is an Equal Opportunity Employer.

GRADUATE FELLOWSHIPS IN THE VISION SCIENCES

Students from a variety of disciplines with interest in applied or basic visual science are encouraged to apply to the University of Houston for graduate study leading to the M.S. or Ph.D. in physiological optics. Fellowships from \$7,000 to \$13,000 are available.

Students interested in the psychology, neurophysiology, anatomy, development, optics, or other aspects of vision are encouraged to apply to: **Associate Dean Merton Flom, College of Optometry, University of Houston, Houston, Texas 77004.** The University of Houston is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWSHIPS ENDOCRINE-REPRODUCTIVE BIOLOGY

The Endocrine-Reproductive Biology Group at the Worcester Foundation for Experimental Biology announces the creation of the M. C. Chang Postdoctoral Fellowships in Endocrine-Reproductive Biology beginning in fall 1982. The fellowships will be for 2 years with possibility of renewal. Applicants should submit, in duplicate, their curriculum vitae, a brief summary of research interests, a synopsis of the Ph.D. thesis research, and the names of three persons from whom references may be requested. Candidates should indicate the research areas in which they wish to work if a fellowship is awarded. Applications should be sent to:

Chairman, Search Committee
ENDOCRINE-REPRODUCTIVE BIOLOGY
FELLOWSHIP PROGRAM
c/o Personnel Office
Worcester Foundation for Experimental Biology
222 Maple Avenue
Shrewsbury, Mass. 01545

An Equal Opportunity/Affirmative Action Employer

MARKETPLACE

IMMUNOCHEMICAL ANALYZER

Quantitates low and high molecular weight immunoreactive substances. Completely automated, self-contained instrument/reagent/software system. Does not use radioactive materials. U.S. and foreign patents. Seek strong high technology engineering company to produce and market.

Box 34, SCIENCE

Senior Scientist

Genentech, Inc., a recognized leader in recombinant DNA research, is seeking a Senior Scientist to join our **BIO-CATALYSIS DEPARTMENT**.

Individual will be involved in direct participation and supervision of research in the area of industrial enzymology and microbiology including alterations of metabolic pathways and improvement of industrial fermentations. This position involves close interaction with the Molecular Biology Group. Successful candidate will have a PhD with a strong background in microbial metabolism and physiology, as well as demonstrated ability in the area of enzymology and basic understanding of multienzyme complexes. Previous experience directing a research group is required.

If you have an appreciation of the uses and limitations of recombinant DNA technology and would like to be part of a dynamic, stimulating multidisciplinary environment, please send your curriculum vitae and the name of three references to **Human Resources**. Please refer to **Position 11-113**.

Genentech, Inc.
Genentech, Inc.
Genentech, Inc.
Genentech, Inc.
Genentech, Inc.

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

We are an equal opportunity employer m/f

DNA SYNTHESIS

Bachem is pleased to announce a course in the chemical synthesis and purification of oligodeoxynucleotides. This will be an intensive hands on course in which the participants will be able to synthesize and purify oligonucleotides. The course will be taught by Dr. Bruce E. Kaplan with additional lectures, and demonstrations, by Drs. Keiichi Itakura, John Rossi and Bruce Wallace. The course will be limited to 20 persons but will be repeated monthly. Dates for the first three sessions, are March 1-5, April 5-9 and May 3-7.

The cost of the course will be \$700.00, including materials. To register send a check to Bachem, 3132 Kashiwa St., Torrance, CA 90505. For additional information call Dr. Kaplan at (213) 359-8111 ext. 2686.

THE AMERICAN MUSEUM OF NATURAL HISTORY

Department of Anthropology, invites applications for a full-time Assistant Curator in Asian Ethnology (equivalent in rank to Assistant Professor). Salary is negotiable.

Publications and PhD in hand are required. Applicants must have demonstrated an ability to conduct first-hand fieldwork. Although we will consider any area of specialty, preference will be given to candidates with research interests in the ethnology of eastern or southeastern Asia. This is primarily a research position, but the candidate must be willing and able to assume primary curatorial responsibility for the extensive holdings in Asian and Oceanic ethnology. Some exhibition responsibility is also required.

Send vita, publications and the names of three (3) references to:

David Hurst Thomas, Chairman
Department of Anthropology
THE AMERICAN MUSEUM OF NATURAL HISTORY
Central Park West at 79th Street
New York, NY 10024

An Equal Opportunity (M/F/H)
Affirmative Action Employer

Director, Chemistry Division

Argonne National Laboratory is a multiprogram research laboratory that is government owned and contractor operated by the University of Chicago and the Argonne Universities Association. The Chemistry Division Director has the primary responsibility for leadership and management of the research programs and facilities of the Division under the general direction of the Laboratory Director for Physical Research.

The Chemistry Division at Argonne National Laboratory has a scientific and technical staff of approximately 145. The Division conducts a diversified program of research in the fields of molecular beam chemistry, theoretical chemistry, radiation chemistry, nuclear and radiochemistry, photochemistry and photosynthesis, actinide element chemistry, separations chemistry, fossil fuels chemistry, solid state and high temperature chemistry, surface chemistry, and structural studies by x-ray and neutron diffraction, as well as in a number of other areas of physical and inorganic chemistry.

Candidates for the position should have an outstanding record of research accomplishments, a serious commitment to research administration, excellent communication skills, and a broad knowledge of contemporary chemical research. Experience in university, industrial, or other research administration would be useful but not essential. Salary is commensurate with experience. Please respond prior to March 1, 1982, to:

Dr. Kenneth L. Klier, Associate Laboratory Director for Physical Research, Box CHM-55, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, Illinois 60439.



An Equal Opportunity/
Affirmative Action Employer

Coming soon . . .

A look into the future of the computer age
in the 12 February 1982 issue of *Science*

Computers and Electronics

Edited by Philip H. Abelson and Mary Dorfman, Science

Contents

Electronics and Computers. Lewis Branscomb, *Vice-President and Chief Scientist, IBM Corporation*

Computers: A Survey of Trends and Limitations. Joel S. Birnbaum, *Director of Computer Research Center, Hewlett-Packard Laboratory*

Ultrafast Phenomena in Semiconductor Devices. Charles V. Shank, *Head, Quantum Physics and Electronics Department*, and D.H. Auston, *Member, Technical Staff, Bell Telephone Laboratories*

Computers in Manufacturing. Christopher A. Hudson, *Manager of Strategic Planning and Development, Advanced Manufacturing Department, Westinghouse Corporation*

Computer Graphics. Turner Whitted, *Member, Technical Staff, Bell Telephone Laboratories*

Advances in Process Control. David L. Morrison, *President*, R.H. Snow, *Engineering Advisor*, and J.P. Lamoureux, *Research Engineer, IIT Research Institute*

Office Automation. R.J. Spinrad, *Vice-President, Research, Xerox Palo Alto Research Center*

Microelectronics and Computers in Medicine. James Meindl, *Director, Stanford Electronics Laboratories*

Evolution of the Intelligent Nationwide Telecommunications Network. John Mayo, *Executive Vice-President, Network Systems Division, Bell Telephone Laboratories*

Business Use of Satellite Communications. Burton I. Edelson, *Senior Vice-President, COMSAT General*

Corporation, and R.S. Cooper, *Director of the Defense Advanced Research Projects Agency*

Electronics and Computers for Individual Services. Ruth Davis, *President, The Pymatuning Group*

Database Systems. Michael Blasgen, *Manager of Advanced Systems Technology, IBM Federal Systems Division*

Computer Networking: Prospects for Scientists. Allan Newell, *U.A. and Helen Whitaker University Professor of Computer Science*, and Robert Sproull, *Associate Professor, Computer Science Department, Carnegie-Mellon University*

Computing in Documentation and Scholarly Research. Warren J. Haas, *President, Council on Library Resources, Inc.*

Computers in Scientific Instrumentation. Christie G. Enke, *Professor of Chemistry, Michigan State University*

Optical Disk Technology. Charles Goldstein, *Chief, Computer Technology Branch, National Library of Medicine*

Software. Glen C. Bacon, *Director, Santa Teresa Laboratory, IBM Corporation*

The UNIX Operating System: A Model for Software Design. Brian W. Kernighan, *Member, Technical Staff, Computing Principles Research Dept.*, and S.P. Morgan, *Director, Computing Science Research Center, Bell Telephone Laboratories*

International Competition. John Walsh, *Science*

The University Role in the Computer Age. J.G. Linvill, *Director, Industrial Programs, Stanford University*

Prepublication price: \$2.50; regular price after publication: \$5.00

Address orders to: AAAS, Dept. CF, 1515 Massachusetts Avenue, NW, Washington, DC 20005

All orders under \$10 must be prepaid.