

collective finger on the major problem with this volume. "Anthropologists," they say (p. 397), "must be wary of reading the past from the ethnographic present. We are perhaps most guilty of presenting a timeless 'traditional' cultural system which other social scientists now routinely feed into their developmental analyses as the antithesis of 'modernization.'" Forman and Riegelhaupt have the advantage of a historical perspective in part derived from their knowledge of "advanced" agro-industrial society. Anthropologists whose optic is the "local level" too easily extrapolate past from present as if no historical changes have occurred. By focusing on the development of the state, Forman and Riegelhaupt go beyond the timeless parochialism of an anthropological literature confined by the study of small village societies, whether tribal groups or little communities. Signaling a future for anthropology as a kind of political and economic history, which takes the study of the local group not as an end in itself but as part of a complex continuum that includes the nation-state, Forman and Riegelhaupt would rewrite the history of Brazil, looking at it from the other end of the telescope. Their paper, coming as it does at the close of the collection, makes the reader wish to go back and refocus the earlier analyses.

JOAN BAMBERGER

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Books Received

Apollo. Ten Years since Tranquility Base. Richard P. Hallion and Tom D. Crouch, Eds. National Air and Space Museum, Washington, D.C., 1979 (distributor, Smithsonian Institution Press, Washington, D.C.). xviii, 174 pp., illus. Cloth, \$17.50; paper, \$6.95.

Applied Biochemistry and Bioengineering. Vol. 2, Enzyme Technology. Lemuel B. Wingard, Jr., Ephraim Katchalski-Katzir, and Leon Goldstein, Eds. Academic Press, New York, 1979. xiv, 306 pp., illus. \$32.50.

Ars Orientalis. The Arts of Islam and the East. Vol. 11. Dedicated to the Memory of Rutherford John Gettens. Freer Gallery of Art, Smithsonian Institution, Washington, D.C., and University of Michigan Department of the History of Art, Ann Arbor, 1979. xiv, 328 pp., illus. \$30.

Continuing Evaluation of the Use of Fluorides. Papers from a AAAS symposium. Erling Johansen, Donald R. Taves, and Thor O. Olsen, Eds. Published for the American Association for the Advancement of Science by Westview Press, Boulder, Colo., 1979. xxx, 322 pp., illus. \$20. AAAS Selected Symposium Series, 11.

Control of Cell Proliferation by Endogenous Inhibitors. A Balázs with the contribution of

I. Blazsek. Elsevier/North-Holland, New York, 1979. 272 pp., illus. \$46.75.

Control of Terrorism. International Documents. Yonah Alexander, Marjorie Ann Browne, and Allan S. Nanes, Eds. Crane, Russak, New York, 1979. xvi, 216 pp. \$17.50.

Controlled Stochastic Processes. I. I. Gihman and A. V. Skorohod. Translated from the Russian edition (Moscow, 1977) by Samuel Kotz. Springer-Verlag, New York, 1979. viii, 238 pp. \$32.

A Course of Theoretical Physics. A. S. Kompaneys. Translated from the Russian edition (1972) by V. Talmy. Mir Publishers, Moscow, 1978 (U.S. distributor, Imported Publications, Chicago). Two volumes. Vol. 1, Fundamental Laws. 564 pp., illus. Vol. 2, Statistical Laws. 508 pp. \$26.

Festkörperprobleme XIX. Advances in Solid State Physics. Papers from a meeting, Munster, Germany, Mar. 1979. J. Treusch, Ed. Vieweg, Braunschweig, 1979. viii, 452 pp., illus. DM 118.

Feynman Path Integrals. Proceedings of a colloquium, Marseille, May 1978. S. Albeverio and six others, Eds. Springer-Verlag, New York, 1979. xii, 454 pp. Paper, \$21.30. Lecture Notes in Physics, vol. 106.

A Field Guide to Western Birds' Nests. Hal H. Harrison. Houghton Mifflin, Boston, 1979. xxxii, 280 pp., illus. + plates. \$11.95. Peterson Field Guide Series, 25.

Food-Borne Infections and Intoxications. Han Riemann and Frank L. Bryan, Eds. Academic Press, New York, ed. 2, 1979. xiv, 750 pp., illus. \$55. Food Science and Technology.

Fourier Series. A Modern Introduction. Vol. 1. R. E. Edwards. Springer-Verlag, New York, ed. 2, 1979. xii, 226 pp. \$16.80. Graduate Texts in Mathematics, 64.

Freud for Beginners. Richard Appignanesi. Illustrations by Oscar Zarate. Pantheon, New York, 1979. 176 pp. Paper, \$2.95.

Function and Molecular Aspects of Biomembrane Transport. Proceedings of a symposium, Selva di Fasano, Italy, Apr. 1979. E. Quagliariello, F. Falmieri, S. Papa, and M. Klinkenberg, Eds. Elsevier/North-Holland, New York, 1979. xii, 526 pp., illus. \$68.25. Developments in Bioenergetics and Biomembranes, vol. 3.

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High-Energy Physics in the Einstein Centennial year. Papers from a meeting, Coral Gables, Fla., Jan. 1979. Arnold Perlmutter, Frank Krausz, and Linda F. Scott, Eds. Plenum, New York, 1979. viii, 526 pp., illus. \$55. Studies in the Natural Sciences, vol. 16.

The Importance of Vitamins to Human Health. Proceedings of a symposium, London, Dec. 1979. T. G. Taylor, Ed. University Park Press, Baltimore, 1979. xiv, 178 pp., illus. \$15.75.

The Iron Blast Furnace. Theory and Practice. J. G. Peacey and W. G. Davenport. Pergamon, New York, 1979. xiv, 252 pp., illus. Paper, \$15. International Series on Materials Science and Technology, vol. 31.

Kronecker Product Tables. A. P. Cracknell, B. L. Davies, S. C. Miller, and W. F. Love. IFI/Plenum, New York, 1979. Three volumes. x, 656 pp.; vi, 918 pp.; and vi, 872 pp. \$325.

Lake Chilwa. Studies of Change in a Tropical Ecosystem. Margaret Kalk, A. J. McLachlan, and C. Howard-Williams, Eds. Junk, The Hague, 1979 (U.S. distributor, Klu-

wer Boston, Hingham, Mass.). xviii, 462 pp., illus. \$78.95. Monographiae Biologicae, vol. 35.

Lambert's Birds of Shore and Estuary. Paintings by Terence Lambert. Text by Alan Mitchell. Scribner, New York, 1979. 128 pp. \$15.95.

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Laser Machining and Welding. N. Rykalin, A. Uglov, and A. Kokora. Translated from the Russian edition (Moscow, 1975) by O. Glebov. Mir Publishers, Moscow, and Pergamon, New York, 1979. 310 pp., illus. \$35.

Learning, Language, and Memory. John W. Donahoe and Michael G. Wessells. Harper and Row, New York, 1979. xviii, 514 pp., illus. + appendixes. \$16.95.

Macromolecules. An Introduction to Polymer Science. F. A. Bovey and F. H. Winslow, Eds. Academic Press, New York, 1979. xvi, 550 pp., illus. \$39.50.

Magnetic Resonance of Phase Transitions. Frank J. Owens, Charles P. Poole, Jr., and Horacio A. Farach, Eds. Academic Press, New York, 1979. x, 390 pp., illus. \$44.

Nonmetropolitan Industrialization. Richard E. Lonsdale and H. L. Seyler. Winston, Washington, D.C., and Halsted (Wiley), New York, 1979. xii, 196 pp., illus. \$15.75. Scripta Series in Geography.

Nonnegative Matrices in the Mathematical Sciences. Abraham Berman and Robert J. Plemmons. Academic Press, New York, 1979. xx, 316 pp. \$32. Computer Science and Applied Mathematics.

Nonsense Mutations and tRNA Suppressors. Proceedings of a symposium, Aarhus, Denmark, July 1978. J. E. Celis and J. D. Smith, Eds. Academic Press, New York, 1979. x, 350 pp., illus. \$33.25.

North American Species of Lactarius. L. R. Hesler and Alexander H. Smith. University of Michigan Press, Ann Arbor, 1979. xii, 842 pp., illus. \$25.

Nuclear Power. Technology on Trial. James J. Duderstadt and Chihiro Kikuchi. University of Michigan Press, Ann Arbor, 1979. x, 228 pp., illus. Cloth, \$16; paper, \$8.50.

Oncogenesis and Herpesviruses III. Part 2, Cell-Virus Interactions, Host Response to Herpesvirus Infection and Associated Tumours, Role of Co-Factors. Proceedings of a symposium, Cambridge, Mass., July 1977. G. de The, W. Henle, F. Rapp, and W. Davis, Eds. International Agency for Research on Cancer, Lyon, 1978 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). xvi + pp. 581-1102, illus. \$30. IARC Scientific Publications No. 24.

Organofluorine Chemicals and Their Industrial Applications. R. E. Banks, Ed. Published for the Society of Chemical Industry by Ellis Horwood, Chichester, England, 1979 (U.S. distributor, Halsted [Wiley], New York). 256 pp., illus. \$49.95.

Organometallics of the f-Elements. Proceedings of a NATO Advanced Study Institute, Sogesta, Italy, Sept. 1978. Tobin J. Marks and R. Dieter Fischer, Eds. Reidel, Boston, 1979. xvi, 518 pp., illus. \$57.50. NATO Advanced Study Institutes Series C, vol. 44.

The Origins of Modern Biochemistry. A Retrospect on Proteins. Papers from a conference.

(Continued on page 426)



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tion potential. The Conductivity model offers a conductivity range from 100,000 to 1 at the flip of a switch. Markson Science. Circle 755.

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Literature

Acoustic Radar describes the SODAR system and its components for atmospheric monitoring and research applications. Climatronics. Circle 758.

Spectrophotometer Cells features standard and custom-designed accessories in optical glass, quartz, and other materials. Precision Cells. Circle 759.

Viscosity includes the Rheocord torque rheometer for precise measurement and recording of temperature, time, and shear in materials. Haake. Circle 760.

Affinity-Purified Antibodies are listed in a handbook and catalog. Kirkegaard & Perry Laboratories. Circle 761.

Gamma Counter is devoted to model NE1612 for high-throughput radioimmunoassay. Nuclear Enterprises. Circle 762.

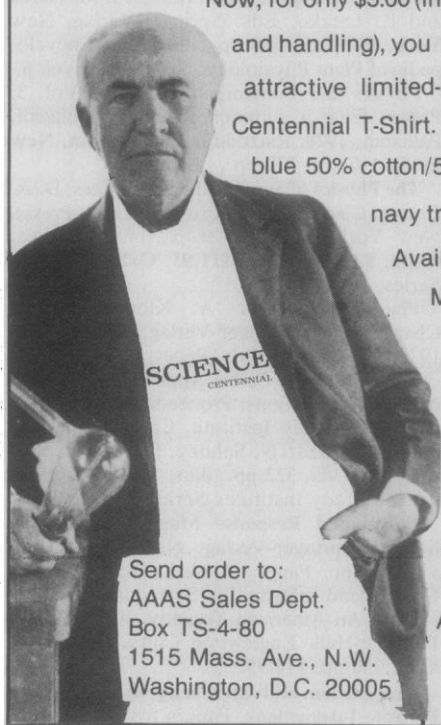
Primary Environmental Calibration Standards includes application notes and technical descriptions for field and laboratory. Analytical Instrument Development. Circle 766.

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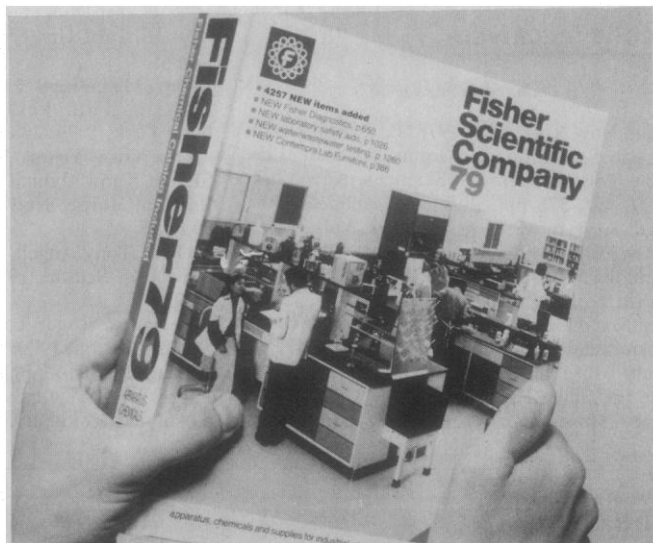
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BOOKS RECEIVED

(Continued from page 387)

ence, New York, May 1978. P. R. Srinivasan, Joseph S. Fruton, and John T. Edsall, Eds. New York Academy of Sciences, New York, 1979. xiv, 376 pp., illus. \$65. *Annals of the New York Academy of Sciences*, vol. 325.

Osteology for the Archaeologist. No. 3. The American Mastodon and the Woolly Mammoth; No. 4, North American Birds: Skulls and Mandibles; No. 5, North American Birds: Postcranial Skeletons. Stanley J. Olsen. Peabody Museum, Cambridge, Mass., 1979. x, 186 pp., illus. Paper, \$15. Papers of the Peabody Museum of Archaeology and Ethnol-

ogy, Harvard University, vol. 56. Nos. 3, 4, and 5.

Our Magnificent Earth. A Rand McNally Atlas of Earth Resources. Rand McNally, New York, 1979. 208 pp. \$35.

Our Own Years. What Women over 35 Should Know about Themselves. Alice Lake, Random House, New York, 1979. x, 244 pp. \$9.95.

Owls. Tony Angell. University of Washington Press, Seattle, 1979. 80 pp., illus. Paper, \$8.95.

Penguins. Roger Tory Peterson. Houghton Mifflin, Boston, 1979. xvi, 238 pp., illus. \$25.

Phagocytosis. Its Physiology and Pathology. Papers from a symposium, Tokyo, June 1977. Yoshiyuki Kokubun and Noboru Kobayashi,

Eds. University Park Press, Baltimore, 1979. xii, 334 pp., illus. \$34.50.

Photochemistry—7. Papers from a symposium, Leuven, Belgium, July 1978. A. Reiser, Ed. Pergamon, New York, 1979. vi + pp. 173–352, illus. \$27.50. Reprinted from *Pure and Applied Chemistry*, vol. 51, No. 2.

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Physics and Contemporary Needs. Vol. 3. Papers from a summer college, Nathiagali, Pakistan, 1978. Riazuddin, Ed. Plenum, New York, 1979. x, 572 pp., illus. \$55.

The Physics of Semiconductor Devices. D. A. Fraser. Clarendon (Oxford University Press), New York, ed. 2, 1979. x, 140 pp., illus. Cloth, \$22.50; paper, \$11.95. *Oxford Physics Series*, 16.

Placental Proteins. A. Klopfer and T. Chard, Eds. Springer-Verlag, New York, 1979. xii, 172 pp., illus. Paper, \$34.50.

Polynomial and Spline Approximation. Theory and Applications. Proceedings of a NATO Advanced Study Institute, Calgary, Canada, Aug. 1978. Badri N. Sahney, Ed. Reidel, Boston, 1979. viii, 322 pp., illus. \$37. *NATO Advanced Study Institutes Series C*, vol. 49.

Polynomial Response Maps. Eduardo D. Sontag. Springer-Verlag, New York, 1979. viii, 168 pp. Paper, \$9.80. *Lecture Notes in Control and Information Sciences*, vol. 13.

PPB. An American Tragedy. Edwin Chen. Prentice-Hall, Englewood Cliffs, N.J., 1979. xviii, 330 pp. \$10.95.

Recognition and Specificity in Plant Host-Parasite Interactions. Papers from a seminar, Lincoln, Neb., June 1977. J. M. Daly and Ikuzo Uritani, Eds. Japan Scientific Societies Press, Tokyo, and University Park Press, Baltimore, 1979. xiv, 356 pp., illus. \$44.50.

Red Giants and White Dwarfs. Robert Jastrow. Norton, New York, ed. 2, 1979. 276 pp., illus. \$12.50.

Semiconductor Technology 1978. Papers from a meeting, London, Apr. 1978. Pergamon, New York, 1979. iv, 204 pp., illus. Paper, \$40. *Microelectronics and Reliability*, vol. 18, Nos. 1/2.

Snatched from Oblivion. A Cambridge Memoir. Marian Cannon Schlesinger. Illustrated by the author. Little, Brown, Boston, 1979. vi, 244 pp. \$9.95.

The Sociology of Science. An Episodic Memoir. Robert K. Merton. Southern Illinois University Press, Carbondale, and Feffer and Simmons, London, 1979. xii, 152 pp. Paper, \$4.95. Reprint of part 1 of *The Sociology of Science in Europe* (1977).

Where Medicine Fails. Anselm L. Strauss, Ed. Transaction Books, New Brunswick, N.J., ed. 3, 1979. vi, 296 pp. Paper, \$4.95.

Wilderness Economics and Policy. Lloyd C. Irland. Lexington (Heath), Lexington Mass., 1979. xx, 228 pp. \$18.95.

Women on the Job. The Attitudes of Women to Their Work. Judith Buber Agassi. Lexington (Heath), Lexington, Mass., 1979. viii, 264 pp. \$24.95.

Working with Ion-Selective Electrodes. Chemical Laboratory Practice. Karl Cammann. Translated from the German edition (Berlin, 1977) by Albert H. Schroeder. Springer-Verlag, New York, 1979. xii, 226 pp., illus. \$41.80.

Writing for Results in Business, Government, the Sciences, the Professions. David W. Ewing. Wiley, New York, ed. 2, 1979. xvi, 448 pp. \$18.95.

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Nutritionist (Egyptian). Ph.D. 1977 from West Germany. Animal science. Graduate research with ruminant species, research experience in mineral metabolism. Postdoctoral experience in feeding (protein metabolism). Desires research, industrial, or government position. Available immediately. Box 185, SCIENCE. X

Organic Chemist, B.S., 13 years of research and development; industrial experience in synthesis, analysis, instruments, techniques. Seeking challenging position. Willing to relocate. Box 186, SCIENCE. X

Science Writer. M.S. natural resources, 1980; B.S. biology and English, 1975; 2 1/2 years of public information writer experience with newsletter writing and layout. One year as graduate student coordinator, environmental studies center. Reading knowledge of French and German. S. C. West, 2091 Summit Street, Columbus, Ohio 43201. X

POSITIONS OPEN

ANATOMY. Applications are solicited for a faculty position at the assistant professor level with primary duties to assist in the teaching of gross anatomy to dental students. In addition, a strong commitment to research in neurobiology or cell biology is expected. Send curriculum vitae to: **Dr. Ray Lund, Chairman, Department of Anatomy, Medical University of South Carolina, 171 Ashley Avenue, Charleston, South Carolina 29403.** An Equal Opportunity/Affirmative Action Employer, M/F.

ASSISTANT DIRECTOR Training and Education Information Data Service (TEDS)

The assistant director will assist in the design, implementation, and evaluation of a self-supporting information system that will provide educational and training data to agencies and organizations in Indiana that counsel young and mature adults.

Candidates should demonstrate substantive knowledge and experience in delivery systems and entrepreneurial leadership. Salary competitive with private sector.

Submit résumés to: **Susan Horowitz, TEDS Director, 150 West Market Street, Suite 503, Indianapolis, Indiana 46204** by 1 August 1980.

Equal Opportunity Employer

ASSISTANT PROFESSOR—INDUSTRIAL HYGIENE AND INDUSTRIAL TOXICOLOGY PURDUE UNIVERSITY

Assistant professor, tenure-track (12-month) position for teaching undergraduate and graduate courses in occupational health and industrial toxicology. Applicants will be provided excellent facilities and be encouraged to pursue research in areas of interest.

A Ph.D. in industrial hygiene, air pollution, industrial or environmental toxicology is required. Send résumés to:

**Dr. John E. Christian
Head, School of Health Sciences
Purdue University
West Lafayette, Ind. 47907**

An Equal Opportunity/Affirmative Action Employer

Searching for candidates for the position of **ASSISTANT PROFESSOR OF OCCUPATIONAL HEALTH.** This position is available 1 September 1980; permanent faculty appointment and opportunity for research in occupational health. Qualifications include a medical degree and Board-certification in internal medicine and Board-certification or qualification in preventive medicine. Curriculum vitae should be addressed to: **Department of Family and Preventive Medicine, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles, Calif. 90033.** *Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR, Department of Biostatistics. Ph.D. in statistics or equivalent background plus consulting and teaching experience in applications of statistics or mathematical methods to problems in biology, medicine, or public health. Collaborative relation with medical researchers in medical institutions, plus teaching and research, \$20,000 to \$35,000. Applications, including curriculum vitae and three letters of recommendation, to: **Dr. Marvin Zelen, Department of Biostatistics, Harvard School of Public Health, 677 Huntington Avenue, Room 706, Boston, Mass. 02115.**

Harvard University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF BOTANY HAWAII

Faculty member to participate in undergraduate Biology Program; one of the responsibilities is lecturing in the general organismal biology course which is given once a year. Applicant should have research experience in either phytoplankton systematics and ecology or quantitative plant ecology and will be expected to offer courses in one of these areas and participate in research. Mandatory qualifications: Ph.D. in a biological science, experience in undergraduate and graduate instruction, and research. Write for details: **Dr. S. M. Siegel, Chairman, Department of Botany, 3190 Maile Way, University of Hawaii, Honolulu, Hawaii 96822.** An Equal Opportunity/Affirmative Action Employer. Closing date: 15 August 1980.

ASSISTANT PROFESSOR OF PHARMACOLOGY

Tenure-track faculty position, for Ph.D. in pharmacology or closely related field, preferably with 2 years of postdoctoral research experience. Candidate to assume teaching responsibilities as soon as possible and to develop independent research program, preferably in neuropharmacology or toxicology. Submit curriculum vitae, bibliography, names of three references, and a brief statement of research plans by 11 August 1980 to: **Dr. H. George Mandel, Chairman, Department of Pharmacology, George Washington University Medical Center, 2300 Eye Street, NW, Washington, D.C. 20037.**

An Equal Opportunity/Affirmative Action Employer

ASSISTANT RESEARCH POSITION available immediately in neurophysiology of aging in the Department of Psychobiology, University of California, Irvine. Candidate must have a Ph.D. Teaching will be required in neuroanatomy at the undergraduate and graduate level; experience desired. A letter of application, curriculum vitae, and three letters of recommendation should be sent to: **G. S. Lynch, Chair, Department of Psychobiology, University of California, Irvine, Calif. 92717.** *Affirmative Action Employer.*

BIOLOGICAL OCEANOGRAPHER to become a member of a team studying coastal ecology. A solid background in marine biology plus a specific knowledge of fish and ocean food webs is required. This scientist must be able to design and carry out definitive experiments at sea that will better define the habits of coastal fishes. The successful applicant will be imaginative, energetic, and able to express results in understandable language. Please send appropriate information to: **Willard Bascom, Director, Coastal Water Research Project, 646 West Pacific Coast Highway, Long Beach, Calif. 90806.**

STATISTICAL SCIENTISTS

Positions are expected to be available for Ph.D.-level statisticians. Appointments will be joint in the Division of Biostatistics and Epidemiology, Sidney Farber Cancer Institute, and at the assistant or associate professor level in the Department of Biostatistics, Harvard School of Public Health. Duties include statistical collaborations in cancer research, independent research in statistical and computer science, and teaching. Strong training in statistical science is essential; a computing background is desirable. *Female and minority candidates are especially invited to apply.* Salary: \$20,000 to \$35,000. Applicants should send complete curriculum vitae and names of three references to: **Dr. Marvin Zelen, Department of Biostatistics, Harvard School of Public Health, Room 706, 677 Huntington Avenue, Boston, Mass. 02115.**

Harvard University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

The Department of Botany of Washington State University is seeking applications for a position in **STRUCTURAL BOTANY**. The appointment will be made at the **ASSISTANT PROFESSOR** level, beginning in September 1981. The level of structural emphasis is open (that is, from the cellular to the organismal level). Preference will be given, but not limited, to a person working on structure-function relationships. The appointee will be expected to maintain an active research program and to teach in structural botany courses. Applicants should send curriculum vitae documenting their research and teaching ability, statement of current research interests and plans, and transcripts, and should arrange to have three letters of reference sent to: **Dr. Donald B. Fisher, Chairman, Structural Botanist Search Committee, Department of Botany, Washington State University, Pullman, Wash. 99164**. The closing date for receipt of applications is 15 November 1980. *Washington State University is an Equal Opportunity/Affirmative Action Employer. We encourage minority, women, handicapped, Vietnam-era and disabled veterans and/or aged persons to apply and identify themselves as such in their applications.*

THE UNIVERSITY OF BRITISH COLUMBIA DEPARTMENT OF ZOOLOGY

Applications are invited for the position of **ASSISTANT PROFESSOR** in the Department of Zoology, University of British Columbia. The successful applicant will be expected to teach and to undertake a strong experimental research programme in developmental and molecular biology. Salary commensurate with experience. Curriculum vitae and the names of three referees should be submitted to: **Dr. G. E. Scudder, Head, Department of Zoology, University of British Columbia, 2354-6270 University Boulevard, Vancouver, British Columbia, Canada V6T 2A9**. The expected date of appointment is either 1 January 1981 or 1 July 1981, subject to budgetary approval. Closing date for application is when position is filled.

BIOCHEMIST

Protein/carbohydrate biochemistry. Postdoctoral or scientist I position (depending on qualifications) for person with expertise in protein purification, carbohydrate biochemistry, and glycoprotein characterization to study processing and secretion of glycoprotein hormones by human cancer cells. Experience in cell culture and immunochemical techniques desirable. Send curriculum vitae and names of three references to:

Dr. R. W. Ruddon
Director, Biological Markers Program
Frederick Cancer Research Center
P.O. Box B
Frederick, Md. 21701

BIOLOGY. Lecturer for academic year 1980-1981 (extension possible). Responsible for instruction and operation of biochemistry laboratory courses, biochemistry clinic, and independent study students. Requires Ph.D. in biochemistry, substantial laboratory experience in biochemistry, and strong interest in teaching. Salary: \$15,960 for period. By 15 August 1980, send résumé and names of three references only to: **Chairman, Biology Department B-022, University of California, San Diego, La Jolla, Calif. 92093**. *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

BIOMEDICAL ENGINEER FOR CEREBRAL CIRCULATORY RESEARCH. Position available at University of Pennsylvania for person with research experience in cerebral blood flow measurement with radioisotopes. Engineering background is required, including master of science in bioengineering or radiation physics. Advanced computer programming skills are essential. Send résumé with three references to: **Dr. Walter Obrist, Division of Neurosurgery, 3400 Spruce Street, Philadelphia, Pa. 19104**. *An Equal Opportunity/Affirmative Action Employer.*

CELLULAR NEUROPHYSIOLOGIST

The Department of Psychobiology, University of California, Irvine, possibly will have a position as assistant professor or perhaps associate professor for a cellular neurophysiologist. Specific research area less important than demonstrated scholarly promise and ability to interact in a broadly based neurobiology department. Applicants should send curriculum vitae and the names of three referees to: **G. S. Lynch, Chair, Department of Psychobiology, University of California, Irvine, Calif. 92717**. *Affirmative Action Employer.*

POSITIONS OPEN

CYTOGENETICS TECHNOLOGIST to join five others in a high-volume laboratory using the most modern equipment. Applicant must be familiar with lymphocyte and amniotic fluid cell culture, harvesting, chromosome "banding" methods, and photomicrography. "Sight" analysis of banded chromosomes ("scope analysis") is essential. Salary and benefits are competitive. Send résumé to: **William D. Loughman, Ph.D., Director, Cytogenetics Laboratory (AC-28), University of California, San Francisco, Calif. 94143; telephone: 415-666-3121**.

DEVELOPMENTAL ANATOMIST DEPARTMENT OF BIOMEDICAL SCIENCES

Southern Illinois University at Edwardsville (SIUE), School of Dental Medicine, invites applications for a full-time faculty position in the Section of Anatomical Sciences of the Department of Biomedical Sciences. Ph.D. or equivalent in human anatomy, developmental biology, or cell biology, with demonstrated research ability required. The individual filling this will: assume total responsibility for teaching human developmental anatomy to dental students with particular emphasis on oral-facial anatomy, participate, as appropriate, in histology, and the laboratory portion of gross anatomy, and actively pursue research of own choice. Salary and rank commensurate with training and experience.

Applications will be received until 31 August 1980.

As an Affirmative Action Employer, SIUE offers Equal Employment Opportunity without regard to race, color, creed or religion, age, sex, national origin, or handicap. Send curriculum vitae to: Dr. Henry M. Cherrick, Dean, School of Dental Medicine, Southern Illinois University at Edwardsville, Edwardsville, Ill. 62026.

FACULTY POSITIONS IN OCEANOGRAPHY

Applications are invited for two tenure-earning faculty appointments in physical oceanography; level of appointment and salary commensurate with qualifications. Applicants should have a record of scholarly publications demonstrating the ability to interpret oceanographic observations. For one of the positions, applicants should have several years of experience in planning and execution of oceanographic field experiments; the second position may also be filled with a numerical modeller/geophysical fluid dynamicist. Duties include teaching graduate-level courses in physical oceanography and supervising research of graduate students. Send curriculum vitae, publication list, and names of three references by 15 September 1980 to: **Dr. Friedrich Schott, Chairman, Division of Meteorology and Physical Oceanography, Rosenstiel School of Marine and Atmospheric Science, University of Miami, 4600 Rickenbacker Causeway, Miami, Florida 33149**. *The University of Miami is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION. Department of Poultry Science seeks faculty member with interest in research and teaching in avian physiology. Applicant must have Ph.D. Position available 1 January 1981; closing date for applications: 1 August 1980. Apply to: **Head, Department of Poultry Science, Box BB, The Pennsylvania State University, 213 Animal Industries Building, University Park, Pa. 16802**. *An Affirmative Action/Equal Opportunity Employer.*

FACULTY/RADIATION SAFETY OFFICER JOINT APPOINTMENT

Opening exists for individual with Ph.D. to serve in a joint appointment: half-time radiation safety officer (RSO) for the university and half-time assistant professor of pharmaceutical chemistry. An assistant will handle technical tasks, providing the RSO ample opportunity for teaching and research. Send résumé and addresses of three references by 1 August 1980 to: **Chairman, Department of Pharmaceutical Sciences, College of Pharmacy, North Dakota State University, Fargo, North Dakota 58102**. *North Dakota State University is an Equal Opportunity/Affirmative Action Employer.*

GENERAL BIOLOGY, ASSISTANT PROFESSOR. Tenure-track position available August 1980. Primary responsibilities: teaching lectures and/or laboratories for freshman biology majors. Area of specialty open. Send curriculum vitae and references to: **Dr. Julian Watkins, Department of Biology, Baylor University, Waco, Texas 76703**. *An Equal Opportunity Employer.*

POSITION OPEN

CHEMISTRY DEPARTMENT HEAD VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY (VPI & SU)

Applications or nominations are invited for the position of department head. The department consists of 35 faculty and 80 graduate students in a land-grant university of 20,000 students. We seek an individual with leadership ability, an active research program, and a strong commitment to education. The individual must be able to represent the department effectively both within and outside the university. Salary is open and competitive. Support for a research associate is provided. Desired starting date: July 1981. Applications should be sent by 1 November 1980 to: **Professor John G. Dillard, Search Committee, Department of Chemistry, VPI & SU, Blacksburg, Va. 24061**. *Equal Opportunity/Affirmative Action Employer.*

INSECT TOXICOLOGIST/BIOCHEMIST. Assistant professor with responsibilities for research and teaching. Responsibilities include research in the area of insect toxicology or biochemistry with emphasis on metabolism of insecticides and secondary plant substances, as well as teaching graduate course in insect toxicology and participation in team-teaching pest management courses. Ph.D. required with training/experience in toxicology or biochemistry with appropriate experience or coursework in entomology or closely related biological science. Deadline for receipt of applications is 1 August 1980. For complete details, contact: **Dr. Ralph E. Berry, Chairman, Search Committee, Department of Entomology, Oregon State University, Corvallis, Oregon 97331**.

Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973. Applications from females and minorities are encouraged.

METALLURGY, MATERIAL SCIENCE, AND PUBLIC POLICY

The Department of Metallurgy and Material Science and the Department of Engineering and Public Policy at Carnegie-Mellon University have an opening for a joint faculty appointment for someone who has outstanding technical credentials and wishes to combine research in metallurgy or materials with research that involves the broader public policy aspects of this field. Our interests include, but are not limited to, development of strategies for reducing dependence on specific materials whose future supply is uncertain; technical, environmental, and other problems associated with new extraction and refining procedures; issues of reserve estimation; and resource economics. Send résumé with list of publications to: **Professor Robert Sekerka, Metallurgy and Material Science, Carnegie-Mellon University, Pittsburgh, Pennsylvania 15213**. *Carnegie-Mellon University is an Affirmative Action/Equal Opportunity Employer.*

MICROBIOLOGIST/GENETICIST. Career federal service. To conduct research on development of recombinant microorganisms capable of more efficient conversion of biomass sources to alternative energy fuels. Salary based on qualifications and experience. GS-11/12/13 level position. Position located at Northern Regional Research Center, Peoria, Illinois. For application forms, contact: **Jane Giles, North Central Regional Administrative Office, USDA, SEA/AR-2, 2000 West Pioneer Parkway, Peoria, Illinois 61615**. *Telephone: 309-671-7135. An Equal Opportunity Employer.*

DEPARTMENT OF MICROBIOLOGY at the University of Health Sciences/The Chicago Medical School is seeking an individual with doctoral and postdoctoral training in virology, infectious diseases, or microbial genetics for a tenure-track position at the assistant or associate professor level. We are interested in attracting the best qualified candidate, and we will therefore consider individuals, regardless of specialty, who are able to develop a strong research program in modern microbiology. Teaching duties will include courses at the graduate level and participation in teaching of microbiology to medical students. Send curriculum vitae and names and addresses of three references to: **Chairman, Department of Microbiology, University of Health Sciences/The Chicago Medical School, 2020 West Ogden Avenue, Chicago, Illinois 60612** by 15 August 1980.

The University of Health Sciences/The Chicago Medical School is an Equal Opportunity/Affirmative Action Employer.

POSITION OPEN

NEW POSITION

INSTRUMENTATION SPECIALIST. Purdue Magnetic Resonance Laboratory has a professional staff opening. A unique opportunity for an experienced electronics engineer or scientist to work on instrumentation and/or software development of 200 MHz wide bore and 470 MHz multinuclear NMR spectrometers and on applications to biomedical experiments. Experience with either analog, RF, and digital electronics or software is essential. Current areas of interest include NMR probe design, CIDNP, and novel pulse sequences. Primary responsibility is to maintain and enhance the capability of the NMR Facility; routine responsibilities include maintenance, repairs, experimental setup, and teaching or assisting users. Possibilities for advancement and independent work. Competitive salary. Applicants with experience in other areas of scientific instrumentation will be given full consideration. **Dr. R. E. Santini, Department of Chemistry, Purdue University, West Lafayette, Ind. 47907; telephone: 317-494-8671/494-8528. Purdue University is an Equal Opportunity/Affirmative Action Employer.**

THE CHINESE UNIVERSITY OF HONG KONG FACULTY OF MEDICINE LECTURERS IN BIOCHEMISTRY

Tenable at this new medical school with an annual intake of 100. Applicants should have a relevant higher degree, preferably a Ph.D., with undergraduate teaching and research experience. Experience in teaching medical students will be an advantage. **ANNUAL SALARY:** HK\$70,440 to \$79,920 by two increments BAR \$84,600 to \$117,720 by seven increments. (Exchange rate: approximately U.S.\$1 = HK\$5). Starting salary will depend on qualifications and experience. **BENEFITS** include superannuation (university 15 percent, appointee 5 percent), medical benefits, paid long leave, education allowance for children, and, for those employed on overseas terms, housing accommodation on campus and air passage as well. Appointees are expected to assume duty on 1 January 1981 or as soon as possible thereafter. **APPLICATION** forms and further information are obtainable from: **Personnel Section, The Chinese University of Hong Kong, Shatin, N.T. Hong Kong.** Completed forms together with copies of recent testimonials and one set of major publications should be returned before 31 August 1980. Please mark "Application" on cover.

MANAGING EDITOR POSITION AVAILABLE

The American Society for Microbiology (ASM) is presently recruiting for the position of managing editor in its headquarters offices in Washington, D.C. The managing editor is operationally responsible for the management of the Society's journal and book publication program. He/she supervises editorial procedures, negotiates printing contracts, develops an annual publications budget in cooperation with staff and officers, secures and protects copyrights, sets journal advertising rates, and serves as editor of *ASM News*. Editorial experience is essential. Experience in publishing, scientific research, and financial and personnel management are helpful. Applicants are requested to send a complete résumé of educational background and work experience, along with three letters of recommendation, to: **Dr. Robert F. Acker, Executive Director, ASM, 1913 I Street, NW, Washington, D.C. 20006**, by no later than 1 October 1980. A selection will be announced by 1 January 1981.

MEDICAL PHYSICS FACULTY POSITION—Faculty position is available in Section of Medical Physics, Department of Therapeutic Radiology. Ph.D. degree required with at least 15 years of experience in a clinical and academic institution. We are particularly interested in an individual with experience in conducting a medical physics graduate program who can initiate and implement an M.S. and Ph.D. program in medical physics. His/her clinical background should include extensive experience with scanning electron beams dosimetry, theoretical as well as experimental. Experience in neutron dosimetry is desirable. He/she should also have a good track record in obtaining research grants. Certification by the American Board of Radiology and the American Board of Health Physics is essential. Send curriculum vitae to:

**Anthony Chung-Bin
Section of Medical Physics
Rush University College of Medicine
1753 West Congress Parkway
Chicago, Ill. 60612**

Rush University is an Equal Opportunity/Affirmative Action Employer.

SQUIBB

EXPERIMENTAL PATHOLOGY

Research Investigator

E.R. Squibb & Sons, Inc., is seeking a professional to head a laboratory studying the effect of anti-inflammatory steroids on target organ tissue receptors.

The qualified candidate will be in a post doctoral program or a PhD with up to 5 years experience in Biochemistry, Physiology, Endocrinology, or Pharmacology.

We offer an excellent salary and benefits package fully attuned to the importance of this position. Interested candidates should send resume including salary requirements in complete confidence to: **Linda L. Hyman, Dept. ZH, P.O. Box 4000, Princeton, N.J. 08540.** An Equal Opportunity Employer, M/F/H

The Flinders University of South Australia
The University of Adelaide
The University of Melbourne

Applications are invited from suitably qualified persons for appointment as:

RESEARCH FELLOW/ASSOCIATE (Bioinorganic Chemist)

The appointee will work on a project investigating mineralization/demineralization processes in dental enamel. Proton activation prompt gamma analysis is used for depth profiling of fluorine, proton induced x-ray excitation for the analysis of cations in the enamel. The appointee will be required to develop elemental maps in and around white spots and to study diffusion and transport of fluorine in apatites and enamels.

The project is sponsored by the Colgate Palmolive Company. It is a multidisciplinary program involving the Department of Preventive Dentistry at the University of Adelaide, the School of Physical Sciences at The Flinders University of South Australia, and the School of Physics at The University of Melbourne. The fellow will be based in Adelaide but periods at the Melbourne laboratories are anticipated.

The appointment will be initially for 12 months but it is likely to be extended for an additional 12 months. An appointee from abroad will be assisted with his/her transfer. Further information may be obtained from: **Associate Professor H. J. de Bruin, School of Physical Sciences, The Flinders University of South Australia.**

Salary scale: A\$14,673 to A\$19,313.

Applications, including curriculum vitae with full details of qualifications and experience and the names and addresses of at least three referees of whom confidential enquiries may be made, should be lodged, in duplicate, with: **The Registrar, The Flinders University of South Australia, Bedford Park, South Australia, 5042, Australia**, by 15 August 1980.

In association with its Institut für Molekulare Genetik in Berlin-Dahlem the

MAX-PLANCK-GESSELLSCHAFT

maintains a **Research Laboratory for Biochemistry and Molecular Biology.** This laboratory provides opportunities for

YOUNG SCIENTISTS

to be responsible for a research group of their own and to carry out an independent research program.

Applicants should already have done some internationally recognized research in the field of **biochemistry, molecular biology or cell biology.**

Appointments will be limited to 5 years starting in 1981. Salaries will fall within the range C 3 of the Bundes-Besoldungsgesetz (about 50-55.000 DM p.a.).

Each research group will have available approximately 130 square meters of floor space, plus adequate funds for scientific coworkers and technical supporting staff, basic equipment and operating expenses.

An application should contain a curriculum vitae, a list of publications and a short description of scientific work both achieved and intended. It should be submitted before **September 30, 1980**

to the Max-Planck-Gesellschaft
zur Förderung der Wissenschaften e.V.
—Generalverwaltung—
Postfach 647
D-8000 München 1.

POSITIONS OPEN

ORAL MICROBIOLOGIST DEPARTMENT OF BIOMEDICAL SCIENCES

Southern Illinois University at Edwardsville (SIU-E), School of Dental Medicine, invites applications for a full-time faculty position in the Department of Biomedical Sciences. Ph.D. or equivalent in human health sciences with appropriate training in medical microbiology, immunology, and/or virology and demonstrated research ability required. Additional D.M.D., D.D.S., or postdoctoral experience in oral microbiology will receive preference. The individual filling this position will share responsibility for teaching dental microbiology, participate in graduate teaching, and be expected to actively pursue research of own choice. Rank and salary commensurate with experience.

Applications will be received until 31 August 1980.

As an Affirmative Action Employer, SIU-E offers Equal Employment Opportunity without regard to race, color, creed or religion, age, sex, national origin, or handicap. Send curriculum vitae to: **Dr. Henry M. Cherrick, Dean, School of Dental Medicine, Southern Illinois University at Edwardsville, Edwardsville, Ill. 62026.**

POPULATION GENETICIST

ASSISTANT PROFESSOR, 12-month, tenure-track appointment, beginning 1 October 1980. Duties include developing a research program involving the genetic manipulation of selected insect pests as well as the candidate's own area of interest. A genetically based management strategy for tobacco budworm in cotton is presently under development by the Mississippi Agricultural and Forestry Experiment Station and the USDA. This program and the R. T. Gast mass rearing facility will afford support to initiate this new discipline in the department. Candidates must have a Ph.D. in life science with educational and research emphasis in population genetics. Experience with insects desired. Send résumé, list of publications, statement of research and teaching interest, and arrange for three letters of recommendation to be sent by 31 August 1980 to: **Dr. D. L. Shankland, Head, Department of Entomology, Mississippi State University, Drawer EM, Mississippi State, Miss. 39762.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL

Postdoctoral position for research on connective tissue in osteoarthritis and degenerative joint disease in dogs. Investigations to focus on the cause and the early events involving collagen metabolism in osteoarthritic tissue. Preferred background of candidate: recent Ph.D. in biochemistry or cell biology with training and research experience in collagen biochemistry and connective tissue metabolism. Two-year appointment starting as soon as possible, with an annual salary of \$13,000 to \$13,800, depending on experience. Please send letter indicating interest, curriculum vitae, and a letter of evaluation from major research adviser to:

**Dr. George Lust
James A. Baker Institute for Animal Health
New York State College of Veterinary Medicine
Cornell University
Ithaca, New York 14853**

POSTDOCTORAL ASSOCIATE POSITION available from August 1980. Must have completed Ph.D. and have excellent knowledge of electron microscopy and plant cell ultrastructure. Research experience in plant vascular cells or microfilaments desirable but not essential. Send curriculum vitae and two references to the address below or meet in person if attending "Botany 80" at Vancouver. **Dr. M. V. Parthasarathy, Section of Plant Biology, 238 Plant Science, Cornell University, Ithaca, N.Y. 14853; telephone: 607-256-4479.**

POSTDOCTORAL POSITION in gynecologic oncology available for qualified applicant with Ph.D. to carry out research in diagnosis of gynecologic malignancies. Applicant should have a strong background in immunology, biochemistry, genetics, virology, or other area related to early diagnosis. Send curriculum vitae and a list of three or more persons who may be contacted for references to: **Dr. John T. Queenan, Professor and Chairman, Department of Obstetrics and Gynecology, Georgetown University Hospital, 3800 Reservoir Road, NW, Washington, D.C. 20007. Georgetown University is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL/INSTRUCTOR POSITION—BIOMEDICAL ENGINEERING. Available immediately. Research on control and optimization of heart assist devices. Candidates should have strong training in engineering and mathematics and must be familiar with PDP11 architecture and programming. Send curriculum vitae and names of three references to: **Dr. Dov Jaron, Biomedical Engineering and Science Institute, Drexel University, Philadelphia, Pa. 19104. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available for research on the structure and control of expression of normal and abnormal human hemoglobin genes. Background in nucleic acid technology desirable. Send curriculum vitae to: **Dr. R. F. Rieder, State University of New York—Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, N.Y. 11203. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately for a research program involving oxygen and anion transport by red blood cells and/or the biophysics of ligand binding to heme proteins. Techniques include stopped flow rapid mixing, flash photolysis, and dual wavelength spectrophotometry. Send résumé and names of three references to: **Dr. John S. Olson, Department of Biochemistry, Rice University, Houston, Texas 77001. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS available for Ph.D.'s with strong backgrounds in molecular biology, biochemistry, and genetics. Projects to be investigated include studies on cellular and viral replication, molecular cloning of eukaryotic cellular and viral genes, and transformation of RNA tumor viruses. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. D. T. Denhardt, Director, Cancer Research Laboratory, University of Western Ontario, London, Ontario, Canada N6A 5B7.**

POSTDOCTORAL POSITION BIOCHEMIST

The Cleveland Clinic Foundation, Research Division, is seeking biochemists who have just completed their Ph.D. Research area: protein biosynthesis and purification. Preferably, familiar with cardiovascular system.

Salary: \$14,500. Available immediately.

Please send résumé and letters of recommendation to: **Dr. S. Sen, Staff, Research Division, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio 44106.**

POSTDOCTORAL POSITION available 1 August 1980 to study physical chemistry of polyamine-DNA interactions. Applicants should have experience in nucleic acids, polyelectrolytes, or NMR. Send curriculum vitae and names of three references to: **Professor Victor Bloomfield, Department of Biochemistry, University of Minnesota, 1479 Gortner Avenue, St. Paul, Minn. 55108. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS

Three postdoctoral fellowships beginning on or before 1 September 1980 will be available in the following areas:

1) **Evolutionary Biology.** The successful applicant in this area will collaborate on experimental research into the evolution of life history features, with emphasis on longevity. Contact: **Dr. L. S. Luckinbill.**

2) **Developmental Molecular Genetics.** Successful applicant will be involved in a project investigating the organization and expression of developmentally regulated eukaryotic genes. Some experience with recombinant DNA methodology is desirable. Contact: **Dr. W. E. Timberlake.**

3) **Molecular Virology.** Applicant will participate in a project to develop tobacco rattle virus RNA into a cloning vehicle for plants. Contact: **Dr. Albert Siegel.**

Salary and benefits are competitive and negotiable. Applications should include three letters of recommendation, together with reprints and curriculum vitae designating the position of interest. Direct applications to the above named individuals at: **The Department of Biological Sciences, Wayne State University, Detroit, Mich. 48202. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION is immediately available to investigate microwave hyperthermia and its effect on tumor microcirculation. Applicants should possess a Ph.D. degree. Salary will be commensurate with experience. Send curriculum vitae and three references to: **Dr. Randy L. Jirtle, Department of Radiology, Box 3433, Duke University, Durham, N.C. 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.**

TWO POSTDOCTORAL POSITIONS: (i) **Molecular biologist/biochemist** to work on mechanisms regulating differentiation in plant cell cultures; and (ii) **molecular geneticist/cytogeneticist** to work on quantification of hybridity in *Brassica* hybrid cell cultures. Send curriculum vitae, three letters of recommendation, and position preference to: **Dr. L. Rappaport, Department of Vegetable Crops/Plant Growth Laboratory, University of California, Davis, Calif. 95616. The University of California is an Equal Opportunity/Affirmative Action Employer and invites application from all qualified individuals.**

POSTDOCTORAL POSITION available immediately for research on viral assembly/mechanism of DNA packaging/structure of encapsidated DNA. Experience in biochemistry/enzymology preferred, familiarity with biochemical genetics and electron microscopy desirable. The position is for 1 to 2 years. Send curriculum vitae, summary of research experience and interest, and three letters of reference to: **Dr. L. W. Black, Department of Biological Chemistry, University of Maryland Medical School, 660 West Redwood Street, Baltimore, Md. 21201.**

POSTDOCTORAL POSITION available summer 1980 to study the role of B lymphocyte surface immunoglobulin in the immune response. Candidate should have experience in cellular immunology and/or immunochemistry and protein chemistry. Salary commensurate with experience. Applicants should send their curriculum vitae plus at least two letters of recommendation to: **Personnel/Manpower Division, attention: Dr. Fred Finkelman, Department of Medicine, Uniformed Services University of the Health Sciences, Bethesda, Md. 20014. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available 1 September 1980 to study effects of hormones on neural development, with particular emphasis on glial and myelin differentiation. A background in immunocytochemistry, immunology, or biochemistry is preferred. Three-year appointment is available with salary range of \$13,000 to \$16,000 in the initial year. Send curriculum vitae and references to: **Dr. Robert P. Skoff, Department of Anatomy, Wayne State University School of Medicine, 540 East Canfield Avenue, Detroit, Mich. 48201. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE. The Department of Plant Pathology, North Dakota State University, has a temporary, 12-month, full-time research position available 1 September 1980. Responsibilities: investigate physiological bases of interactions of root and crown rotting fungi of wheat and barley, especially *Helminthosporium sativum*. Research will concentrate on determining role of toxins in disease development and the possible role of pathogen-inhibiting substances in resistance. These physiological studies will be part of an ongoing program on root and crown rots of small grains. Appointee will cooperate with other researchers working on genetics and epidemiology of this disease. Salary: \$15,000 per year. Qualifications: a Ph.D. in plant pathology and a minimum of 1 to 2 years of experience in laboratory research on physiology of host-parasite interactions. Send résumé, transcripts, and three letters of recommendation by 15 August 1980 to: **Dr. R. L. Kiesling, Department of Plant Pathology, North Dakota State University, Fargo, N.D. 58105.**

North Dakota State University is an Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE

Research on mechanisms of enzymatic reactions. Ph.D. in chemistry or biochemistry required. Available any time before 1 December 1980. Send résumé and two letters of recommendation to: **Dr. R. M. Pollack, Department of Chemistry, University of Maryland Baltimore County, 5401 Wilkens Avenue, Catonsville, Md. 21228. University of Maryland Baltimore County is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN BIO-CHEMISTRY available immediately. Salary is \$14,000 per year. Role of cytochrome P-450 in ergot alkaloid biosynthesis. Send curriculum vitae and references to: **Dr. John A. Anderson, Department of Chemistry, Texas Tech University, Lubbock, Texas 79409.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION to study serological and genetic structure of rat immunoglobulins, using hybridoma antibodies and DNA cloning. Strong background in biochemistry and molecular immunology essential. Send curriculum vitae and three references to: **Dr. George Gutman, Department of Microbiology, University of California, Irvine, Calif. 92717.**

Affirmative Action Employer

POSTDOCTORAL POSITION. A position is available immediately for a person to work on the genetics and molecular biology of DNA synthesis in herpesvirus-infected cells. Send résumé and the names of three references to: **Dr. John Hay, Professor, Department of Microbiology, c/o Personnel/Manpower Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20014.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION

Available immediately to study solid-phase synthesis of nucleic acids. The research involves new types of solid supports and synthetic procedures as well as complete characterization of products. Candidates should send curriculum vitae and three references to: **Professor T. M. Chapman, Department of Chemistry, University of Pittsburgh, Pittsburgh, Pa. 15260.** The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL (CELL BIOLOGY, ENDOCRINOLOGY) POSITION. Available 1 November 1980 for studying the endocrine regulation of growth and expression of differentiated function (gonadotropin receptors and responses) in cultured Leydig tumor cells. Experience in cell biology preferable but not necessary. Send curriculum vitae and two letters of reference to: **Dr. Mario Ascoli, Division of Endocrinology, Vanderbilt University Medical Center, Nashville, Tenn. 37232.**

DEPARTMENT OF ANATOMY UNIVERSITY OF MINNESOTA

VISITING PROFESSORSHIPS are available for the academic year 1980-1981 for scientists interested in spending short periods of time (3 to 6 months) working in laboratories in the department. Ideal for sabbatical leave since funds are available for stipends (\$2000 to \$3000 per month gross) to supplement regular sabbatical leave salary. Persons with distinguished research records in areas compatible with ongoing projects in the department are urged to apply. Areas of interest are: cell motility, cell-cell communication (gap junctions), developmental neurobiology, neurobiology of pain, cell biological aspects of function in islets of Langerhans (synthesis, secretion of hormones, control of cell function, islet transplantation), Paneth cell function, cell biological aspects of male reproduction (especially biology of spermatozoa), evolution of humans, and control of growth hormone and prolactin secretion. Interested persons should send their curriculum vitae to: **Dr. David W. Hamilton, Department of Anatomy, University of Minnesota, 4-135 Jackson Hall, 321 Church Street, SE, Minneapolis, Minn. 55455.** Closing date for receipt of applications is 1 August 1980. Earliest starting date is 1 September 1980. An Equal Opportunity Educator and Employer.

PROFESSOR IN RESIDENCE, 1981-1982

If you are a biochemist or microbiologist who is seeking first-hand industrial experience to expand your professional horizons you should apply for a temporary appointment as Professor in Residence at the A. E. Staley Manufacturing Co., Decatur, Ill., Research Center. On academic leave, you can participate in ongoing R & D programs involving modification or use of carbohydrates, proteins, or enzymes. To qualify, you must hold a permanent position on the faculty of a university or college. Write: **Dr. T. F. Protzman, A. E. Staley Manufacturing Co., P.O. Box 151, Decatur, Ill. 62525.**

MANAGER CLINICAL CHEMISTRY La Jolla, California

CALBIOCHEM-BEHRING CORPORATION has an immediate opening for an innovative and dynamic individual to supervise research groups doing product development and research in the area of Clinical Chemistry. This position reports directly to the Vice President for Clinical Research and the successful candidate will have full technical responsibility for all aspects of chemistry-related diagnostic product development.

This position offers a unique opportunity to participate in all phases of new product development. CALBIOCHEM-BEHRING CORPORATION is a moderate-sized company, a subsidiary of American Hoechst Corporation and the clinical chemistry resource for Hoechst, AG, the world's largest chemical manufacturer. Individual initiative and creativity is given international recognition.

Candidates are invited to apply who have a PhD in Chemistry or Biochemistry plus previous experience and evidence of accomplishment in diagnostic products development with full project responsibility.

Excellent salary and fringe benefits, including relocation. Please submit résumé and salary history in confidence to:

Employment Manager



CALBIOCHEM-BEHRING CORP.

10933 North Torrey Pines Rd., La Jolla, CA 92037

Affirmative Action Employer

Director Division of Biological & Medical Research Argonne National Laboratory

Applications and nominations are invited for the position of Director of the Division of Biological and Medical Research of Argonne National Laboratory. The Laboratory is operated by the University of Chicago under contract with the University of Chicago, the Argonne Universities Association, and the United States Department of Energy.

The research program of the Division includes a broad range of problems in fundamental cell biology, molecular anatomy, molecular structure and mutagenesis, studies in radiation toxicology, the toxicology of other energy effluents, health assessment and in mechanisms of carcinogenesis. A candidate should have a record of distinguished achievement in biological and medical research and the ability to give scientific and administrative leadership to a diverse scientific division. A broadly based Selection Advisory Committee will review all applications.

Applications or nominations should be submitted by August 8, 1980 to:

Mr. Ronald A. Johns, Manager, Employment & Placement, Box BIM 13301, for submission to Dr. W. K. Sinclair, Associate Laboratory Director for Biomedical & Environmental Research, Argonne National Laboratory, 9700 So. Cass Avenue, Argonne, IL 60439.

An Affirmative Action/Equal Opportunity Employer. Women, Minorities, the Handicapped and Veterans Urged to Apply.



POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE position. To study selenium-containing proteins in animals. Candidate must have Ph.D. in biochemistry. It is desirable to have working knowledge of animal nutrition. Salary range: \$13,000 to \$17,000, based on experience and training. A fixed-term, nontenure position. Résumé and three letters of recommendation to: **Dr. P. D. Whanger, Department of Agricultural Chemistry, Oregon State University, Corvallis, Oregon 97331.** *Oregon State University is an Equal Opportunity/Affirmative Action Employer in compliance with Section 504, Rehabilitation Act of 1973.*

POSTDOCTORAL RESEARCH ASSOCIATE. Research in immunology and immunohematology, investigating the presence of membrane antigens on the surface of normal and abnormal human and animal RBC and tissue cells. Applicants must have extensive background in immunologic procedures. Salary: \$15,500 per year and benefits. Send curriculum vitae and three letters of recommendation to: **Dr. Philip Levine, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, N.Y. 10021.**

NATIONAL SCIENCE FOUNDATION PROGRAM MANAGER U.S.-PEOPLE'S REPUBLIC OF CHINA

The National Science Foundation, Division of International Programs, U.S.-People's Republic of China Program, is seeking qualified applicants for a senior program manager position. This position is excepted from the competitive service, EC-14 or EP-15 (equivalent to GS-14/15; salary range of \$34,713 to \$50,112 per annum), and will be filled on a permanent basis. Responsibilities consist of directing the management of the U.S.-China Program which includes the coordination, planning, implementation, and monitoring of program support. Applicants should have an advanced degree in science or engineering or equivalent experience; experience in the management of international exchanges and knowledge of the scientific infrastructure in the People's Republic of China. Chinese language capability is highly desirable. Send résumé or SF-171, Personnel Qualifications Statement, to: **National Science Foundation, 1800 G Street, NW, Washington, D.C. 20550, attention: Odessa G. White.** Closing date: 15 August 1980. For further information, telephone: 202-357-7840. *The National Science Foundation is an Equal Opportunity Employer.*

RESEARCH ASSOCIATE—Experienced (M.S. or Ph.D.) researcher familiar with ESR, NMR, preparation of photoaffinity or spin-labeled cardiolipin or fatty acyl-CoA analogues, membrane or soluble enzymes, and characterization of the enzyme derivatives; may start 15 August 1980. Salary: \$11,000 to \$16,000, depending on qualifications. **Dr. Gary L. Powell, Department of Biochemistry, Clemson University, Clemson, S.C. 29631.** *Clemson University is an Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSOCIATE—Structure and conformation of carbohydrates in glycoproteins. Research will involve such techniques as circular dichroism, NMR, gas chromatography, mass spectrometry, and HPLC. Salary range: \$13,000 to \$16,000, depending on qualifications and experience. Send curriculum vitae and three letters of recommendation to: **Dr. C. Allen Bush, Department of Chemistry, Illinois Institute of Technology, Chicago, Ill. 60616.** *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE—Full-time (40 hours per week) position for Ph.D. with at least 2 years of training in immunochemical studies of histones and chromatin. Salary: \$14,000 per annum. Please submit curriculum vitae to: **B. D. Stollar, Department of Biochemistry and Pharmacology, TUFTS MEDICAL SCHOOL, 136 Harrison Avenue, Boston, Mass. 02111.** *An Affirmative Action/Equal Opportunity Employer.*

SENIOR RESEARCH FELLOW. Position available in a neurobiology laboratory for an individual with at least 2 years of postdoctoral experience. Intracellular recording experience essential. Experience in voltage clamping desirable. Position can begin at the end of 1980. A résumé and names of three references should be sent to: **Felix Strumwasser, Division of Biology 156-29, California Institute of Technology, Pasadena, Calif. 91125.** *An Equal Opportunity Employer.*

POSITIONS OPEN

The Departments of Surgery and Biochemistry are reopening the search for a **RESEARCH ASSISTANT PROFESSOR** with research interests in carcinogenesis, steroids, and nutritional biochemistry. Competitive salary, excellent benefits, and well-equipped research facilities. Applicants with postdoctoral experience in biochemistry or a related area should send their curriculum vitae and references to: **Dr. Alvin L. Watne, Chairman, Department of Surgery, or Dr. Fred Butcher, Acting Chairman, Department of Biochemistry, West Virginia University Medical Center, Morgantown, West Virginia 26506.** Deadline for receipt of applications is 1 August 1980. *West Virginia University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSISTANT PROFESSOR OF PHARMACOLOGY. A nontenure-track position is available for a candidate with prior experience in the area of perinatal calcium homeostasis. A Ph.D. degree in pharmacology or related biomedical science and 2 years of postdoctoral experience are minimum requirements. This position is available as of 1 September 1980. Closing date for receipt of applications is 1 August 1980. Salary is dependent upon qualifications and experience. Submit résumé and names of three references to: **Leonard R. Forte, Ph.D., Department of Pharmacology, University of Missouri School of Medicine, Columbia, Mo. 65212.** *The University of Missouri is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE POSITION AVAILABLE IMMEDIATELY

Recent Ph.D. with 1 to 2 years of postdoctoral training desirable. To aid in development of a plasmid and lambda vector collection. Will be expected to develop own research program. Salary: \$18,000 to \$25,000. Send curriculum vitae and references to:

**Bobbie A. Brandon
American Type Culture Collection
12301 Parklawn Drive
Rockville, Maryland 20852
Equal Opportunity Employer, M/F**

SCIENTIST HEAD OF COMPUTER UNIT Imperial Cancer Research Fund Laboratories London

We require a scientist with substantial computing experience in a field relevant to the work of the Fund and with a broad knowledge of computer techniques. The person appointed will in addition to developing his/her own research, be responsible for the computing services of our laboratories, scientific liaison with computer users, and user instruction.

The main computer is a recently installed DEC 2050 supervised by a computer manager with a staff of five programmer/analysts and an operator. Relevant research areas include, in particular, statistical and epidemiological analysis, as well as applications for artificial intelligence, image analysis, and data base management in the biomedical field.

After an initial probationary period, this appointment will be of unlimited tenure. Salary range is expected to be £10,142 to £12,564 plus £740 London Weighting, but may be extended depending on age, qualification, and experience.

Enquiries and applications should be sent to: **Dr. W. F. Bodmer, Director of Research, Imperial Cancer Research Fund, Lincoln's Inn Fields, London WC2, England** by 31 August 1980.

STRESS PHYSIOLOGY

The Department of Anatomy and Physiology, College of Veterinary Medicine, invites applications for an assistant professor, tenure-track position from individuals with a background in physiological and biochemical responses to stress and an interest in research on cattle. Participation in teaching systemic physiology to veterinary and graduate students as well as the establishment of a productive research program relating to bovine respiratory disease will be required.

Candidates must have a Ph.D. degree, D.V.M.-Ph.D. degree, or equivalent. Résumés and list of three references must be submitted by 15 August 1980 to: **Dr. Roger Fedde, Department of Anatomy and Physiology, College of Veterinary Medicine, Kansas State University, Manhattan, Kansas 66506.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

The University of California, Davis, announces a position for a **SENIOR ACADEMIC PHYSICIAN** to direct the Davis component of the state of California-funded Northern California Occupational Health Center, a program involving faculty from the Schools of Medicine and Veterinary Medicine and the College of Agriculture and Environmental Sciences.

The program will focus upon clinical service, teaching, and research in occupational medicine as related to the agricultural and rural workplace. Academic rank and salary commensurate with credentials with academic appointment in appropriate department of the School of Medicine. Research background in occupational health and medicine required. Past research background in occupational health and medicine required. Past administrative experience or strong administrative potential necessary. Ability to work across multidisciplinary lines involving faculty from all three schools is necessary.

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

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

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

SENIOR RESEARCH SCIENTIST in the Biomedical Engineering Laboratory at Rice University. Requirements are a Ph.D. in engineering with emphasis on biological fluid mechanics and biorheology and at least 5 years of experience in microcirculatory fluid mechanics and related experimental methodology. Duties include participation in planning and operation of research programs in biological fluid mechanics and biorheology, assisting faculty in preparation of proposals and reports, planning and carrying out experimental programs, and supervising graduate students and research technicians; 40 hours per week; \$27,000 per annum. Contact: **H. M. Bourland, Rice University, P.O. Box 1892, Houston, Texas 77001.**

Rice University is an Equal Opportunity/Affirmative Action Employer.

STATISTICAL GENETICIST with a strong background in quantitative or population genetics. The successful candidate will be expected to collaborate in biomedical research projects involving nonhuman primates and to develop a strong independent research program. Academic affiliation may also be possible. This is an excellent opportunity for a creative scientist in an expanding genetics program under the direction of **Dr. John L. VandeBerg.** Postdoctoral experience required. Send résumé, statement of research interests, and names of three references by 1 August to: **Personnel Manager, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, Texas 78284.** *We are an Equal Opportunity/Affirmative Action Employer.*

SENIOR STAFF POSITION

Applications are invited for a senior staff position (associate professor, professor) in the area of tumor virology and/or immunology, starting as early as January 1981. Priority will be given to those individuals with interests in the molecular aspects of tumor virus replication and viral immunology. The applicant should have a doctoral degree, postdoctoral experience, active research program, evidence of success in obtaining extramural funding, and experience and an active interest in collaborative research. This expanding, nonprofit, private research institute provides excellent physical facilities, ample laboratory space, a competitive salary, and opportunities for collaborative research with present staff. Appointment to the faculty in a department at the University of Cincinnati is available, if desired. Send curriculum vitae, bibliography, statement of research interests, and names of three or more references to: **Dr. R. G. Krueger, The Christ Hospital Institute of Medical Research, 2141 Auburn Avenue, Cincinnati, Ohio 45219,** before 1 November 1980. *Equal Opportunity/Affirmative Action Employer.*

RESEARCH SCIENTISTS

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DRUG METABOLISM PHARMAKOKINETICS BIostatISTICS

BRISTOL LABORATORIES—outstanding pace-setter in the pharmaceutical industry is also an acknowledged leader in antibiotic and cancer research. Progressive expansion of our significantly research-oriented environment creates positions of special interest to scientists with BS, MS and PhD degrees in Chemistry, Biochemistry, Biochemical Pharmacology or Microbiology; and for a PhD in Biostatistics or Statistics.

Specialized PhD Group Leader Positions

One involves investigating metabolism of anticancer drugs, calling for a scientist with supervisory experience in all aspects of drug disposition and pharmacokinetics in animals and humans. Experience with animal and human cancer research preferred.

Other position in drug metabolism of new antibiotics requires PhD with supervisory experience in drug disposition and pharmacokinetics. Antibiotic research experience preferred.

PhD/Biostatistics

Position in the Biostatistics Department is primarily responsible for consultations with clinical personnel on design of clinical drug studies and interpretations of results based on statistical analysis. Clinical cancer research experience preferred.

BS or MS Graduate Positions

Qualifying graduates must be experienced in analysis of drugs in biological materials and animal handling procedures.

All positions offer excellent salaries, fully commensurate with your level of experience and qualifications; a first-rate laboratory environment; and liberal benefits package which includes relocation assistance to our upstate New York headquarters.

For prompt, confidential consideration, forward your resume, including salary requirement and position of interest, to: MANAGER OF EMPLOYMENT

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PULMONARY

PHYSIOLOGIST/PHARMACOLOGIST

Hoffmann-LaRoche, one of the world's leaders in the pharmaceutical and chemical industry, is located in suburban New Jersey twelve miles from New York City.

We have a Senior Scientist position in our Pharmacology Department for a recent Ph.D. or an individual with up to 5 years postdoctoral experience who is familiar with the use of *in vivo* techniques used in the evaluation of bronchopulmonary agents. Applicants are expected to have demonstrated the ability to do independent research and be capable of supervising several assistants in the performance of routine laboratory work.

Roche offers outstanding fringe benefits and an environment that encourages professional growth. Send résumé along with present salary to—**Cheryl V. McCall, Associate Employment Manager, Hoffmann-LaRoche, Inc., Nutley, New Jersey, 07110.**

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POSITIONS OPEN

SENIOR SCIENTIST—Institute of Chemical Analysis, Northeastern University. Senior staff research position with potential for long-term appointment. Collaborative and independent research expected. Background in analytical chemistry, biochemistry, or organic chemistry is required. Experience in chromatography or protein chemistry is desirable. Salary commensurate with experience. Send résumé, a brief outline of research plans, and sample of representative reprints to: **Dr. B. L. Karger, 341 Mugar Hall, Northeastern University, Boston, Mass. 02115.** *Northeastern University is an Equal Opportunity/Affirmative Action Employer.*

TOXICOLOGIST—Full professor with primary responsibility to establish a new graduate program in toxicology. Undergraduate teaching responsibility is minimal. Position available as of 1 July 1981. Send curriculum vitae and the names of three or more references to: **Dr. Kenneth G. Wolfson, Dean of the Graduate School, Rutgers—The State University of New Jersey, New Brunswick, N.J. 08903.** *An Equal Opportunity/Affirmative Action Employer.*

TOXIC WASTE REDUCTION

The Governor's Office of Appropriate Technology, State of California, is seeking qualified professional staff to conduct an assessment of policies and technologies which can safely be used to reduce the volume of toxic wastes disposed of in the land. Particular attention will be given to the feasibility of various combustion technologies (stationary and portable), and to the development of policies which lead to reduction and recycling of toxic materials. We wish to hire a resource economist/project manager, two chemical/industrial engineers, and a waste management specialist. Advanced degrees and related experience mandatory. Salary commensurate with qualifications. Project begins midsummer for approximately 1 year. For details, write: **Phyllis Tichinin, Office of Appropriate Technology, 1530 Tenth Street, Sacramento, Calif. 95814.**

VETERINARY ENTOMOLOGIST CORNELL UNIVERSITY

Tenure-track position; preferably assistant professor level. Ph.D. with postdoctoral or similar experience desirable. Research (65 percent): focused on ecology of arthropods associated with domestic animals; extension (35 percent): implementing pest-management programs for livestock and poultry industries in the state; no formal teaching responsibility. Send résumé and names of five references to: **Professor E. H. Smith, Department of Entomology, Cornell University, Ithaca, N.Y. 14853.** Application deadline: 1 September 1980. *Cornell is an Equal Opportunity/Affirmative Action Employer.*

VICE PRESIDENT FOR ACADEMIC AFFAIRS MICHIGAN TECHNOLOGICAL UNIVERSITY Houghton, Michigan

Nominations and applications are invited for the position of vice president for academic affairs at Michigan Technological University, a state-supported institution having an enrollment of 7700 students, 63 percent of whom are in the College of Engineering. The university awards bachelor's degrees in all major fields of engineering, science, business, and liberal arts; the master of science is offered in 16 fields and the Ph.D. in five fields. The campus is located at Houghton in the rural upper peninsula of Michigan.

The vice president for academic affairs is responsible for all academic programs and will report to Dr. Dale F. Stein, the recently appointed president. Candidates should have an earned doctorate and distinguished record of accomplishment as a scholar, teacher, and administrator, as well as nationwide recognition for leadership within his or her discipline. Candidates within the engineering and physical science disciplines are preferred. However, others are welcome to apply.

Applications and nominations are to be sent to:



**C. Robert Baillod, Chairman
Search Committee
Civil Engineering Department
Michigan Technological University
Houghton, Mich. 49931**

Michigan Technological University is an Equal Opportunity Educational Institution/Equal Opportunity Employer.

GRADUATE STUDY

COMPUTERS IN MEDICINE GRADUATE PROGRAM

The Department of Biometry, School of Medicine, Case Western Reserve University, offers a master of science degree program in computer applications in the health sciences. Our program contains that basic level of training which is necessary, yet sufficient, to produce in one intensive year a professional who can lead the application of computer technology in the health sciences. National Library of Medicine fellowships are available for physicians and academic nurses. Concurrent clinical activities are encouraged.

A Ph.D. program in information processing in medicine is also available.

For a copy of the program prospectus, contact:

**Dr. Robin Lake, Ph.D.
Biometry, Wearn Building
University Hospitals
Cleveland, Ohio 44106
Telephone: 216-444-3491**

GRADUATE STUDIES

The Department of Biological Sciences at Oakland University offers programs leading to the M.S. degree. The university is located on 1500 acres approximately 30 miles north of Detroit. Research opportunities are available in cell physiology, biochemistry, developmental biology, electron microscopy, neuroanatomy, genetics, endocrinology, cellular aging, botany, plant physiology, ecology, and microbiology. Financial aid and graduate assistantships are available. Contact: **Dr. John R. Reddan, Department of Biological Sciences, Oakland University, Rochester, Michigan 48063.**

TRAINING PROGRAM

PREDOCTORAL AND POSTDOCTORAL TRAINING IN EXPERIMENTAL NUTRITION

Postdoctoral training is offered in the following areas under a grant from the National Institute of Arthritis, Metabolism, and Digestive Diseases:

The nutrition availability of amino acids and B vitamins in foods and the beneficial or adverse effects of food processing, and

The effects of dietary changes on the growth and metabolism of gut bacteria and their possible significance for the host.

Research training will be for 1 to 3 years and will be supplemented with lectures by faculty and invited speakers. Trainees must be citizens or noncitizen nationals of the United States or be permanent residents and have earned a Ph.D. or M.D. degree. Grants for predoctoral training in the department are also available. To apply or obtain more information, write: **Dr. K. J. Carpenter, Department of Nutritional Sciences, University of California, Berkeley, Calif. 94720,** or telephone: 415-642-0953.

An Affirmative Action/Equal Opportunity Educator and Employer

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP available on project to investigate genetic variation replication of influenza viruses. Techniques to be used include cloning, nucleotides, sequencing, analyses of mutants, and so forth. Send curriculum vitae to: **Dr. Peter Palese, Department of Microbiology, Mount Sinai School of Medicine, 1 Gustave Levy Place, New York, N.Y. 10029.** *An Equal Opportunity Employer, M/F.*

POSTDOCTORAL FELLOWSHIP available immediately to study pyrolysis mass spectrometry of biopolymers and bacteria. Please send résumé and references to: **Dr. T. H. Risby, The Johns Hopkins University, COEH, U.S. Public Health Service Hospital, Building 6, 3100 Wyman Park Drive, Baltimore, Md. 21211.** *An Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

PREDOCTORAL FELLOWSHIPS IN RESPIRATORY AND CARDIOVASCULAR PHYSIOLOGY. The Physiology Division of the Johns Hopkins University, Department of Environmental Health Sciences, has predoctoral traineeship positions available starting in the 1980-1981 academic year. Candidates with interest in obtaining the Ph.D. degree in these fields should send curriculum vitae and the names of three references to: **Dr. Wayne A. Mitzner, Department of Environmental Health Sciences, Division of Environmental Physiology, Johns Hopkins University, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Md. 21205.**

POSTDOCTORAL FELLOWSHIP. Seeking applicant with training in cell biology, experimental pathology, and/or biochemistry to study the cell biology and metabolism of isolated glomerular cells. For more advanced candidates a junior faculty position would be considered. Send résumé and names of three referees to: **Professor Morris J. Karnovsky, Department of Pathology, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115.** *Harvard University is an Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH TRAINING FELLOWSHIP

The position is a National Research Service Award administered by the Jules Stein Eye Institute, University of California, Los Angeles (UCLA). The fellowship is available for a maximum period of 2 years. The salary range is \$13,380 to \$18,000 annually, depending upon experience. Additional benefits include \$1,000 for health insurance, travel expenses to Los Angeles, expenses for one annual research meeting, and funds for supplies and equipment. A candidate is sought who is interested in working on projects dealing with the metabolism of the nucleus in retinal cells, with emphasis on renewal, repair, and differentiation. Previous experience in this research area and/or with radioisotope techniques, electron microscopy, or biochemistry is desirable but not essential. Submit an application or request further information from: **Dr. Richard W. Young, Department of Anatomy, UCLA Medical School, Los Angeles, California 90024.**

POSTDOCTORAL FELLOWSHIPS IN MOLECULAR GENETICS

The University of Rochester invites applications for postdoctoral positions in a program which has the goal of bacterial production of human blood-clotting factors. The program is multidisciplinary and will provide training in recombinant DNA technology, molecular genetics, hematology, enzymology, and immunology. Stipends will be comparable to or greater than those offered by the National Institutes of Health, depending on experience. Applicants are requested to send their curriculum vitae, a brief statement of career goals, and three letters of reference to: **Dr. Frank Young, Director and Dean, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, N.Y. 14642.**

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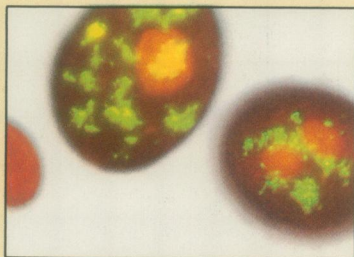
INTERFERON TESTING SERVICE

Bioassay Systems is offering an interferon testing service available for cell culture samples, blood specimens and commercial production lots. Interferon activity is measured using the Inhibition of VSV-induced CPE effect in human foreskin fibroblasts (FS-7). Benefits of service include rapid turnaround time, reliability, experience and cost-effectiveness. For more details, write or call **BIOASSAY SYSTEMS CORPORATION, 225 Wildwood Avenue, Woburn, MA. 01801 (617) 933-9229.**

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Becton Dickinson FACS Systems ADVANCES IN HEMATOLOGY

The Fluorescence Activated Cell Sorter (FACS) has become a powerful means of identifying and separating cells and cell constituents according to distinctive properties of **FLUORESCENCE** and **SIZE**. FACS makes possible multi-parameter measurement of individual cells, providing the distribution of these measurements in a sample. Evaluation against operator-selected criteria, at rates to 5,000 cells per second, forms the basis for physical separation of viable subpopulations. FACS measurements have been documented for sensitivity to as few as 3,000 fluorescent molecules per cell. Light-scatter measurements are sensitive to particles as small as 0.3 micron in diameter, and can be used to detect viability, without staining, in homogenous populations such as lymphocytes. FACS Systems are accepted as the standard of comparison for quality, performance and reliability, and are in daily use in top laboratories worldwide. Following is a brief view of recent FACS advances:

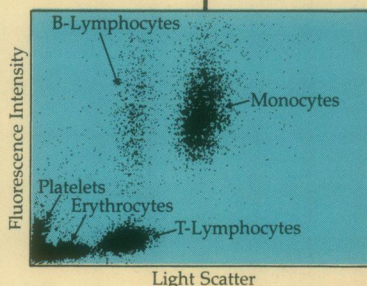


Platelet Subpopulations in Immune Disorders

Platelet immune destruction has been studied using FACS for quantitation of IgG and C3 on individual platelets. Analysis of samples with counts as low as 1000/mm³, using as little as 1 ml of blood, are possible. Many subjects with evidence of immune platelet destruction show one subset of platelets reacting with both anti-IgG and C3, while a second subset is unreactive.

FACS Analysis of Leukemic Cells

Cell-surface-binding fluorescent ligands have been used by researchers to distinguish between leukemic cell types and between leukemic cells and their presumed normal counterparts. Binding sites for cholera toxin have been found to be normally expressed in chronic leukemias but greatly diminished or absent in acute leukemias irrespective of their morphological type. Antibodies specific



for the common form of acute lymphoblastic leukemia (ALL) have been produced in rabbits and shown to define a cell surface antigen of non-T, non-B type ALL.

Stem Cell Analysis and Sorting Using Light Scatter

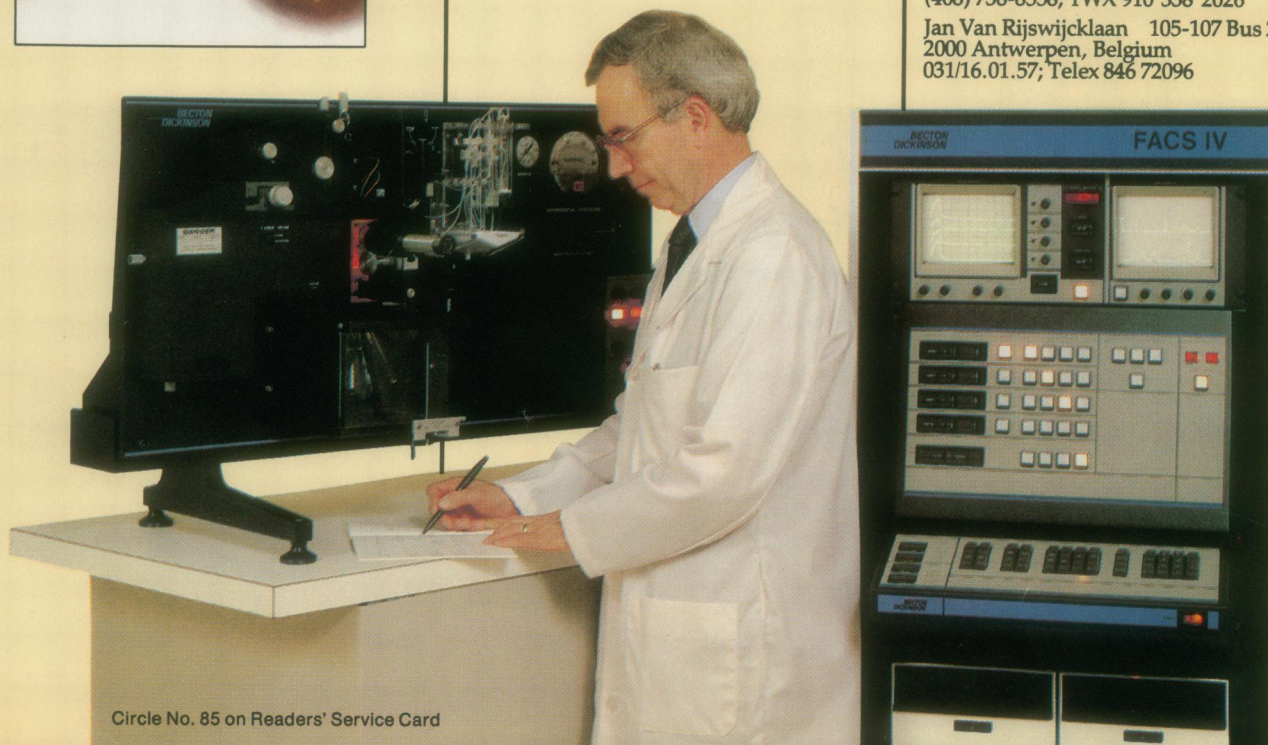
Morphological discrimination of the hematopoietic stem cell—the colony forming unit of spleen (CFU-s)—has been made using light scattering measurements, without fluorescence staining, in FACS. Light scatter is measured simultaneously from different directions. Correlated analyses of mouse bone marrow cells have then been used for sorting and microscopic identification. CFU-s are found among those cells classified by light

scatter as large lymphocytes, or blast cells.

For additional information, including an extensive bibliography, call or write Becton Dickinson FACS Systems.

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