

of time and to analyze biotic changes based on practically all preserved taxa." What results is a candid text telling us what can be done, what was not done and why, and what still needs to be done.

The highly fossiliferous section under examination is only 29 meters thick, involving the Llandovery Lower Visby Marl and the Wenlock Upper Visby Marl and Högkint Limestone, at Vattenfallet, south of Visby on the island of Gotland. The first 38 pages of the book are devoted to its geographic lithofacies, carbonate sediments, described in detail, and depositional environments.

The guts of the book are contained in the next 214 pages, which cover 39 different kinds of organisms represented in the Vattenfallet section. A standard stratigraphic scheme is used throughout, so that one can compare ranges and abundances of any one of the groups with those of any other in precisely the same interval, as well as with the enclosing lithology. One may note, for instance, that there is a dearth of ostracodes (fig. 44) when there is an abundance of conodonts (fig. 70) and from such data draw one's own conclusions about the reasons. The strength of this book is the presentation of an abundance of data—the kinds of data that are all too often suppressed editorially in favor of unsupported conclusions. Nor is such evidence left fallow; the authors have related changes in some faunas to changes in depth of water, whereas others are thought to be related to the development of reefs in nearby areas.

Jaanusson devotes the final 40 pages to a summary of the findings and to some important general conclusions concerning studies of this sort. To compensate for certain inadequacies of the original collections he assumes that species recorded from greater numbers of samples were more common than those recorded from lesser numbers. Thus a group of species recorded from 10 localities or samples was probably more abundant than a group recorded from only two. The groups of species with the highest frequencies he names the Average Macro-organism Assemblage Nuclei (AMAN). Within each lithostratigraphic interval five bionomic groups were sought—epifaunas and endofaunas for hard and soft bottoms, plus vagile benthos. For each of the five bionomic groups an AMAN was established within each stratigraphic unit.

The occurrence of certain taxa that have been popular as depth indicators in previous paleocommunity studies is clearly related to specific kinds of bottom conditions, not necessarily linked to

depth. Quantitative data based on a single bed or bedding surface may not be at all representative for more inclusive stratigraphic units. The composition of AMAN assemblages agrees better with the evidence from skeletal sand than do compositions of communities as estimated by other methods.

Jaanusson discusses pitfalls discovered in the course of the study and presents suggestions for surmounting many of the problems. Most of his suggestions involve advance planning.

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Books Received

Abnormal Embryogenesis. Cellular and Molecular Aspects. T. V. N. Persaud, Ed. University Park Press, Baltimore, 1980. x, 246 pp., illus. \$29.95. *Advances in the Study of Birth Defects*, vol. 3.

Abnormal Psychology. The Problem of Maladaptive Behavior. Irwin G. Sarason and Barbara R. Sarason. Prentice-Hall, Englewood Cliffs, N.J., ed. 2, 1980. xvi, 574 pp., illus. \$19.95.

Advances in Clinical Chemistry. Vol. 21. A. L. Latner and Morton K. Schwartz, Eds. Academic Press, New York, 1980. x, 254 pp., illus. \$29.

Advances in Ecological Research. Vol. 11. A. Macfadyen, Ed. Academic Press, New York, 1980. xii, 430 pp., illus. \$57.50.

Advances in Organometallic Chemistry. Vol. 18. F. G. A. Stone and Robert West, Eds. Academic Press, New York, 1980. x, 354 pp., illus. \$42.50.

Aerosol Microphysics I. Particle Interaction. W. H. Marlow, Ed. Springer-Verlag, New York, 1980. xii, 162 pp., illus. \$31.90. *Topics in Current Physics*, 16.

Afghanistan. Louis Dupree. Princeton University Press, Princeton, N.J., 1980. xxiv, 778 pp., illus. Paper, \$9.95. Reprint of the 1973 edition.

Bioengineering for Land Reclamation and Conservation. Hugo Schiechl. Translated from the German edition (Munich, 1973). N. K. Horstmann, Transl. Co-ordinator. University of Alberta Press, Edmonton, Canada, 1980. xii, 404 pp., illus. \$30.

Biofeedback. Clinical Applications in Behavioral Medicine. David S. Olton and Aaron R. Noonberg. Prentice-Hall, Englewood Cliffs, N.J., 1980. x, 438 pp. \$21.

Biologie des Spongiaires. Sponge Biology. Papers from a colloquium, Paris, Dec. 1978. Claude Levi and Nicole Boury-Esnault, Eds. Editions du Centre National de la Recherche Scientifique, Paris, 1979. 534 pp., illus. Paper, 185 F.

The Blood-Retinal Barriers. Papers from a NATO Advanced Study Institute, Espinho, Portugal, Sept. 1979. Jose G. Cunha-Vaz, Ed. Plenum, New York, 1980. xiv, 392 pp., illus. \$39.50. *NATO Advanced Study Institutes Series A*, vol. 32.

The Brain and Psychology. M. C. Wittrock, Ed. Academic Press, New York, 1980. xiv, 424 pp., illus. \$25. *Educational Psychology*.

California Insects. Jerry A. Powell and Charles L. Hogue. Drawings by Charles L. Hogue. University of California Press, Berkeley, 1980. x, 388 pp. \$15.95. *California Natural History Guides*, vol. 44.

The Cambridge Encyclopedia of Archaeology. Andrew Sherratt, Ed. Crown, New York, and Cambridge University Press, New York, 1980. 496 pp., illus. \$35.

The Cell Biology of Inflammation. Gerald Weissman, Ed. Elsevier/North-Holland, New York, 1980. xxii, 714 pp., illus. \$112.75. *Handbook of Inflammation*, vol. 2.

The Cell Surface. Mediator of Developmental Processes. Stephen Subtelny and Norman K. Wessels, Eds. Academic Press, New York, 1980. xvi, 374 pp., illus. \$26.50.

The Character and Origins of Smog Aerosols. A Digest of Results from the California Aerosol Characterization Experiment (ACHEX). George M. Hidy, Peter K. Mueller, Daniel Grosjean, Bruce R. Appel, and Jerome J. Wesolowski, Eds. Wiley-Interscience, New York, 1980. xxiv, 776 pp., illus. \$32.50.

Chemistry. An Introduction. Sydney B. Newell. Little, Brown, Boston, ed. 2, 1980. xxii, 564 pp., illus. \$17.95.

China. A Geographical Survey. T. R. Tregear. Halsted (Wiley), New York, 1980. xii, 372 pp., illus. \$42.50.

Deserts on the March. Paul B. Sears. University of Oklahoma Press, Norman, Okla., ed. 4, 1980. viii, 264 pp. \$12.50.

Design for Safety. David B. Thurston. McGraw-Hill, New York, 1980. x, 196 pp., illus. \$14.95. *McGraw-Hill Series in Aviation*.

Development of Cognition, Affect, and Social Relations. Papers from a symposium, Minneapolis, Oct. 1978. W. Andrew Collins, Ed. Erlbaum, Hillsdale, N.J., 1980. x, 294 pp. \$19.95. *Minnesota Symposia on Child Psychology*, vol. 13.

Diabetes 1979. Proceedings of a congress, Vienna, Sept. 1979. Werner K. Waldhausl, Ed. Excerpta Medica, Amsterdam, 1980 (U.S. distributor, Elsevier North-Holland, New York). xxii, 866 pp., illus. \$153.75.

Diagnostic Imaging of the Kidney and Urinary Tract in Children. A. R. Chrispin, I. Gordon, C. Hall, and C. Metreweli. Springer-Verlag, New York, 1980. xx, 206 pp., illus. \$66. *Current Diagnostic Pediatrics*.

Digital Computer Circuits and Concepts. Bill R. Deem, Kenneth Muchow, and Anthony Zeppa. Reston (Prentice-Hall), Reston, Va., ed. 2, 1980. xii, 532 pp., illus. \$17.95.

Dimensional Analysis in the Biomedical Sciences. Bernard Schepartz. Thomas, Springfield, Ill., 1980. viii, 172 pp., illus. \$19.75.

Directory of On-Going Research in Cancer Epidemiology 1979. C. S. Muir and G. Wagner in collaboration with E. Demaret, A. Nagy-Tiborcz, and K. Schlaefter. International Agency for Research on Cancer, Lyon, 1979 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). 672 pp. Paper, \$15. *IARC Publications No. 28*.

Dissection of the Fetal Pig. Warren F. Walker, Jr. Illustrated by Judith L. Dohm, Edna Indritz Steadman, and Pat Densmore. Freeman, San Francisco, ed. 3, 1980. xvi, 92 pp. Paper, \$3.95.

Divorce Reform. Changing Legal and Social Perspectives. Lynne Carol Halem. Free Press (Macmillan), New York, and Collier Macmillan, London, 1980. xii, 340 pp. \$17.95.

Extensions of Linear-Quadratic Control Theory. D. H. Jacobson, D. H. Martin, M. Pachter, and T. Geveci. Springer-Verlag, New York, 1980. xii, 288 pp. Paper, \$19.20. *Lecture Notes in Control and Information Sciences*, vol. 27.

The Flow of Life. Essays on Eastern Indonesia. James L. Fox, Ed. Harvard University Press, Cambridge, Mass., 1980. xii, 372 pp., illus. \$30.

Fluid Flow through Porous Macromolecular Systems. Frederik W. Wiegell. Springer-Verlag, New York, 1980. vi, 102 pp., illus. Paper, \$9.80. *Lecture Notes in Physics*, vol. 121.

The Foundations of Chemical Kinetics. E. N. Yermine. Translated from the Russian edition (Moscow, 1976) by Artavaz Beknazarov. Mir Publishers, Moscow, 1979 (U.S. distributor, Imported Publications, Chicago). 424 pp., illus. \$11.

Foundations of Epidemiology. Abraham M. Lilienfeld and David E. Lilienfeld. Oxford University Press, New York, ed. 2, 1980. xvi, 376 pp., illus. Cloth, \$17.95; paper, \$11.95.

Glaucoma Symposium. Diagnosis and Therapy. Amsterdam, Sept. 1979. Erik L. Greve, Ed. Junk, The Hague, 1980 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xvi, 420 pp., illus. \$92.

Growing Old. A Societal Perspective. Martha Baum and Rainer C. Baum. Prentice-Hall, Englewood Cliffs, N.J., 1980. xii, 306 pp. Paper, \$9.95.

Growth without Ecodisasters? Proceedings of a conference, Reykjavik, Iceland, June 1977. Nicholas Polunin, Ed. Halsted (Wiley), New York, 1980. xxvi, 676 pp., illus. \$49.95.

Handbook of Human Sexuality. Benjamin B. Wolman and John Money, Eds. Prentice-Hall, Englewood Cliffs, N.J., 1980. xii, 366 pp. \$34.95.

Handbook of Mental Deficiency, Psychological Theory and Research. Norman R. Ellis, Ed. Erlbaum, Hillsdale, N.J., ed. 2, 1979. xxx, 786 pp. \$45.

Handbook of Microbiological Investigations for Laboratory Animal Health. J. R. Needham. Academic Press, New York, 1979. xviii, 174 pp., illus. \$21.

Handbook on Parent Education. Marvin J. Fine, Ed. Academic Press, New York, 1980. xvi, 342 pp., illus. \$18.50. *Educational Psychology*.

Handbook of Physiological Methods. Developmental and Cytological Methods. Elisabeth Gantt, Ed. Cambridge University Press, New York, 1980. xii, 426 pp., illus. \$29.95.

Handbook of Range Distributions for Energetic Ions in All Elements. U. Littmark and J. F. Ziegler. Pergamon, New York, 1980. iv, 494 pp. \$65. *The Stopping and Ranges of Ions in Matter*, vol. 6.

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BOOKS RECEIVED

(Continued from page 814)

An Introduction to Evolutionary Genetics. David T. Parkin. University Park Press, Baltimore, 1980. viii, 224 pp., illus. Paper, \$17.50. A Series of Student Texts in Contemporary Biology.

An Introduction to Mineralogy for Geologists. W. J. and N. Phillips. Wiley, New York, 1980. xiv, 352 pp., illus. + plates. \$49.50.

An Introduction to Social Work Practice. Neil Gilbert, Henry Miller, and Harry Specht. Prentice-Hall, Englewood Cliffs, N.J., 1980. xvi, 336 pp. \$13.95.

The Journal of the Absurd. Jules Siegel and Bernard Garfinkel. Illustration by Diana Bryan. Workman, New York, 1980. 180 pp. Paper, \$3.50.

Learning to Talk. John McShane. Cambridge University Press, New York, 1980. xii, 164 pp., illus. \$24.50.

The Life and Death of Whales. Robert Burton.

Universe Books, New York, ed. 2, 1980. 186 pp., illus., + plates. \$14.95.

Lilies. A Revision of Elwes' Monograph of the Genus *Lilium* and its Supplements. Compiled by Patrick M. Syngé in association with the Royal Horticultural Society. Universe, New York, 1980. 276 pp., illus. + plates. \$59.50.

Lymphokine Reports. A Forum for Nonantibody Lymphocyte Products. Vol. 1. Edgar Pick and Maurice Landy, Eds. Academic Press, New York, 1980. xx, 260 pp., illus. Paper, \$28.50.

Macrostructures. An Interdisciplinary Study of Global Structures in Discourse, Interaction, and Cognition. Teun A. van Dijk. Erlbaum, Hillsdale, N.J., 1980. x, 318 pp. \$24.95.

Mathematical Modeling with Computers. Samuel L. S. Jacoby and Janusz S. Kowalik with a chapter by H. Blair Burner. Prentice-Hall, Englewood Cliffs, N.J., 1980. xii, 292 pp., illus. \$21.50.

The Mental Health of Women. Marcia Guttentag, Susan Salasin, and Deborah Belle, Eds. Academic Press, New York, 1980. xxiv, 164 pp., illus. \$12.50.

Methods for Determining Metal Ion Environments in Proteins. Structure and Function of Metalloproteins. Papers from a conference, Las Cruces, N.M., Jan. 1979. Dennis W. Darnall and Ralph G. Wilkins, Eds. Elsevier/North-Holland, New York, 1980. xii, 324 pp., illus. \$29.50. Advances in Inorganic Biochemistry, 2.

Methods in Carbohydrate Chemistry. Vol. 8, General Methods. Roy L. Whistler and James N. BeMiller, Eds. Academic Press, New York, 1980. xxii, 350 pp., illus. \$38.50.

Methods of Experimental Physics. L. Marton and C. Marton, Eds. Vol. 16, Polymers. R. A. Fava, Ed. Academic Press, New York, 1980. Two volumes. Part A, Molecular Structure and Dynamics. xxvi, 590 pp., illus. \$55. Part B, Crystal Structure and Morphology. xxvi, 422 pp., illus. \$45.

Meyler's Side Effects of Drugs. An Encyclopaedia of Adverse Reactions and Interactions. M. N. G. Dukes, Ed. Excerpta Medica, Amsterdam, ed. 9, 1980 (U.S. distributor, Elsevier/North-Holland, New York). xx, 860 pp. \$122.

Microbial Ecology of Foods. Vol. 1, Factors Affecting Life and Death of Microorganisms. By the International Commission on Microbiological Specifications for Foods. Academic Press, New York, 1980. xvi, 332 pp. \$29.50.

Microcomputers for Engineers and Scientists. Glenn Gibson and Yu-cheng Liu. Prentice-Hall, Englewood Cliffs, N.J., 1980. xvi, 480 pp., illus. \$24.95.

Microprocessors and Logic Design. Ronald L. Krutz. Wiley, New York, 1980. xviii, 468 pp., illus. \$24.95.

Microsomes, Drug Oxidations, and Chemical Carcinogenesis. Papers from a symposium, Ann Arbor, Mich., July 1979. MinorJ. Coon and five others, Eds. Academic Press, New York, 1980. Two volumes. xl, 1258 pp., illus. Vol. 1, \$39.50; vol. 2, \$41.

Minicomputer Systems. M. Vardell Lines. Winthrop (Prentice-Hall), Cambridge, Mass., 1980. xii, 218 pp., illus. \$19.95.

New Drug Therapy with a Calcium Antagonist. Papers from a symposium, Hakone, Japan, 1978. Richard J. Bing, Ed. Excerpta Medica, Amsterdam, 1980, (U.S. distributor, Elsevier/North-Holland, New York). xiv, 258 pp., illus. \$46.25.

Ophthalmology Update. Papers from a congress, Kyoto, Japan, May 1978. Katsuyoshi Mizuno and Yukihiko Mitsui, Eds. Excerpta Medica, Amsterdam, 1980 (U.S. distributor, Elsevier/North-Holland, New York). viii, 206 pp., illus. \$41.50.

Optimization Techniques. Proceedings of a conference, Warsaw, Sept. 1979. K. Iracki, K. Malanowski, and S. Walukiewicz, Eds. Springer-Verlag, New York, 1980. Two volumes. xvi, 570 pp., and xvi, 622 pp. Each vol., \$34.90. Lecture Notes in Control and Information Sciences, vols. 22 and 23.

Orang-Utan Behavior. Terry L. Maple. Van Nostrand Reinhold, New York, 1980. xvi, 268 pp., illus. \$25. Van Nostrand Reinhold. Primate Behavior and Development Series.

The Organic Constituents of Higher Plants. Their Chemistry and Interrelationships. Trevor Robinson. Cordus Press, North Amherst, Mass., ed. 4, 1980. iv, 352 pp., illus. \$13.75.

The Theory and Practice of Environmental Quality Analysis. Water Resources Management, Land Suitability Analysis, Economics, and Aesthetics. Eric Hyman, Bruce Stiffel, Christopher J. Cotant, and Robert Nichols. Council of Planning Librarians, Chicago, 1980. xiv, 90 pp. Paper, \$15. CPL Bibliography No. 27.

Theory of Stellar Pulsation. John P. Cox. Princeton University Press, Princeton, N.J., 1980. xiv, 382 pp., illus. Cloth, \$40; paper, \$13.50.

Time and the Sciences. Papers from a meeting, London, Feb. 1976. Frank Greenaway, Ed. UNESCO, Paris, 1979 (U.S. distributor, Unipub, New York). viii, 182 pp. Paper, \$12.95. At the Crossroad of Culture.

The Timing of Sleep and Wakefulness. On the Substructure and Dynamics of the Circadian Pacing Underlying the Wake-Sleep Cycle. J. T. Enright. Springer-Verlag, New York, 1980. xviii, 264 pp., illus. Paper, \$26.90. Studies of Brain Function, vol. 3.

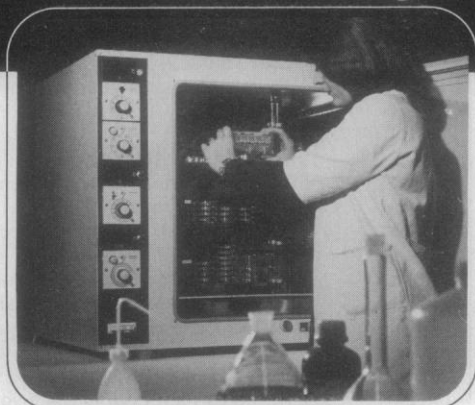
Translation Planes. Heinz Lüneburg. Springer-Verlag, New York, 1980. x, 278 pp. \$29.80.

Trends in Pharmacological Sciences. Reference Edition. Vol. 1, 1979-80. John W. Lamble, Ed. Elsevier/North-Holland, New York, 1980. vi, 218 pp., illus. \$46.25.

Variational Inequalities and Complementarity Problems. Theory and Applications. Papers from a school, Erice, Sicily, June 1978. R. W. Cottle, F. Giannessi, and J.-L. Lions, Eds. Wiley-Interscience, New York, 1980. xviii, 408 pp. \$48.95.

Vibrational Spectroscopy of Molecular Liquids and Solids. Papers from a NATO Advanced Study Institute, Menton, France, June 1979. S. Bratos and R. M. Pick, Eds. Plenum, New York, 1980. x, 464 pp., illus. \$49.50.

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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 Ave., 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 Ave., NW
Washington, D.C. 20005

POSITIONS WANTED

Biochemist, Ph.D. Research experience in cyclic nucleotides in CNS and psychotropic drugs. Seeks research position. Box 39, SCIENCE. X

Biochemist, Ph.D. 1976. Broad academic background. Protein biosynthesis, cell-virus interactions. Four years of experience in various aspects of rodent and human interferon research. Teaching experience. Publications. Ongoing research program. Seeks stimulating, tenure-track academic or independent industry position. Box 40, SCIENCE. 2/20; 3/6

Biologist/Medical Technologist, B.A. 1977. M.T. 1979. Two years of experience in large clinical laboratory in toxicology and hematology. Research experience with publications and presentations. Seeking challenging research position in academia or industry. Box 30, SCIENCE. 2/20, 27

Biorganic Chemist, Ph.D. Five years of experience in immobilization of enzymes and hormones on solid support. Strong background in synthesis, identification, and isolation of organic compounds of physiological interest. Sixteen publications. Seeks industrial position. Box 26, SCIENCE. X

Clinical Trials Expert, Ph.D. Drug trials monitoring or regulatory affairs. Extensive industry and government experience. Principal field: hypertension. Telephone: Dr. W. Williams at 301-496-2465. X

Cloning/Microbiologist/Biochemist, Ph.D., associate professor, NSF and NIH grants; 35 publications. Will help develop new recombinant DNA team or join current cloning project. Box 41, SCIENCE. X

Microbiologist, Ph.D. 1975. Experience in organic chemistry, biosynthesis, biodegradation, enzymology, continuous culture applications. Interested in industrial position, applied or environmental research. M. P. Pirnik, 6 Tamaques Way, Westfield, N.J. 07090. X

Primate Biologist, Ph.D. research in behavior/endocrinology. Seeks teaching/research position. Box 44, SCIENCE. X

POSITIONS WANTED

Departmental Administrative Officer. Science background. Professional engineer. Fourteen years of experience, university chemistry department: personnel, purchasing, budget, funds management, facilities, grant administration. Presently employed. Relocation to West Coast desired. Box 42, SCIENCE. X

Electron Microscope/Tissue Culture Technologist, B.S. Three years of experience with all phases of TEM, SEM, some SEM x-ray analysis. Plant and animal tissue interpretation. Four years in all phases of plant tissue culture. Seeks position in academia, industry, or government. Willing to relocate. Box 43, SCIENCE. 2/20; 3/13

Ph.D. Environmental Sciences, University of Michigan, 1966; M.S. Biology, Emory University, 1960; B.S. Biology and Chemistry, 1956. Twenty years plus of experience in teaching/research, regulatory agency administration, industry and private consulting, primarily in water pollution control/resource management. Desires permanent position. Dr. J. Phaup, 662 Leo Drive, Cocoa, Florida 32922. X

Experienced, Board-certified **Pathologist (AP)** with the rank of tenured professor and international reputation in cancer research seeks responsible position. Transfer of personal grants might be possible. Box 36, SCIENCE. X

POSITIONS OPEN

ANATOMIST/HISTOLOGIST

The Department of Biology, Illinois Wesleyan University, invites applications for a tenure-track position at the assistant professor level. Applicants should have the Ph.D. degree. The candidate must be qualified to teach comparative or functional anatomy, histology, and participate in the team-taught general biology course for majors. In addition, the candidate will be expected to develop one or more advanced courses in areas of his or her specialty and pursue research, aspects of which would be appropriate for undergraduate research projects. Primary consideration will be given to teaching excellence. Send curriculum vitae and three letters of reference to: **Dr. Bruce B. Criley, Department of Biology, Illinois Wesleyan University, Bloomington, Ill. 61701. Illinois Wesleyan is an Equal Opportunity Employer.**

AQUATIC TOXICOLOGIST Academy of Natural Sciences of Philadelphia Benedict Estuarine Research Laboratory

Applicants are invited for the position of aquatic toxicologist at a research laboratory on Chesapeake estuary. The applicant with a Ph.D. or equivalent should be broadly experienced in the physiological/biochemical basis for toxicological effects. Should be broadly trained with demonstrated quantitative and statistical abilities. Duties include directing the toxicological program, participation in interdisciplinary applied ecological studies, and development of an active personal research program. Applicants should submit curriculum vitae, statement of research interests, and three letters of recommendation by 15 March 1981 to:

Dr. Louis E. Sage
Academy of Natural Sciences of Philadelphia
Benedict Estuarine Research Laboratory
Benedict, Md. 20612

A full-time, tenure-track position (**ASSISTANT PROFESSOR**) is available 1 July 1981. Position provides salary, start-up support, and balanced opportunities in research and teaching. Candidates should have postdoctoral experience and be able to develop a strong independent research program. Responsibilities include teaching of graduate, medical, and other health science students. The department is particularly interested in applicants working at the cellular level in areas such as muscle, receptors (neuro or endocrine), and transport mechanisms. All application materials must be received by 17 April 1981. Send curriculum vitae, a summary of proposed research plans, and names of three references to:

Dr. D. T. Frazier, Chairman
Department of Physiology and Biophysics
University of Kentucky
College of Medicine
Lexington, Ky. 40536

Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

THE TRUDEAU INSTITUTE, INC. ASSISTANT AND ASSOCIATE PROFESSORSHIPS

The Trudeau Institute wishes to appoint three new **RESEARCH IMMUNOBIOLOGISTS**, at the level of **assistant or associate professor**, to investigate basic immune functions and mechanisms of defense against infectious and neoplastic diseases. Candidates should have at least 3 years of productive postdoctoral experience to apply for an assistant professorship, and a minimum of 6 years of experience to apply for an associate professorship. The successful candidates will be provided the space and facilities to develop their own research programs. Although they will be expected to compete for outside funding, the Institute has the financial resources to support them for generous periods of time.

The Trudeau Institute is a not-for-profit institution dedicated to pure research. It is housed in a modern facility and situated in the lakes and high peaks region of the Adirondack Mountains, 8 miles from Lake Placid, N.Y.

Résumés should be sent to: **Dr. Robert J. North, The Director, Trudeau Institute, Inc., P.O. Box 59, Saranac Lake, N.Y. 12983.**

New Division of Gerontology invites applications for tenure-track research position. **ASSISTANT PROFESSOR** in cell and molecular biology for studies on cellular aging. Ph.D. or M.D. with several years of postdoctoral experience is required. Preference may be given to those with background in membrane-molecular interactions and/or hybridoma techniques. Apply with curriculum vitae and names and addresses of three references to: **Dr. Sam Goldstein, Division of Gerontology, Department of Medicine, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Ark. 72205.**

The Medical Sciences Program of Indiana University School of Medicine-Bloomington has a tenure-track position open: **ASSISTANT PROFESSOR OF ANATOMY**. The applicant should have a Ph.D. (or equivalent) with research interests in structural and functional ultrastructure and/or histochemistry; preferably in the immune or nervous systems. Postdoctoral experience and the ability to attract extramural funding are desirable. Major teaching responsibility is for medical, graduate, and undergraduate students. Development of an independent research program and guidance of graduate student research are required. Send curriculum vitae, statement of research interest, and three letters of recommendation to: **Chairman, Anatomy Search and Screen Committee, Medical Sciences Program, Indiana University, Bloomington, Ind. 47405, by 1 April 1981. An Equal Opportunity/Affirmative Action Employer.**

ASSISTANT OR ASSOCIATE PROFESSOR OF ENTOMOLOGY. The Department of Entomology, University of California, Riverside, announces a tenure-track position, available 1 July 1981, for an economic entomologist/insect pest management (IPM) scientist to develop a broad research program on IPM of citrus and other subtropical orchard crops. The appointment is on an 11-month basis, 90 percent research and 10 percent teaching. Applicants must have a Ph.D. degree with extensive training or experience in applied entomology and related areas such as plant sciences, ecology, insect toxicology, statistics, and quantitative analyses of IPM problems. Send curriculum vitae, transcripts, names and addresses of five referees, doctoral dissertation summary, bibliography, reprints and manuscripts in press, and statement of research interests to: **Dr. Michael K. Rust, Search Committee Chairman, Department of Entomology, University of California, Riverside, Calif. 92521.** Applications will be accepted until 15 March 1981, or later if a suitable applicant has not been selected. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR OF MICROBIOLOGY

Applications are invited for a faculty position in the Department of Microbiology which will be available 1 July 1981. Candidates should have at least 2 years of postdoctoral experience, preferably in the area of molecular tumor virology. Send curriculum vitae, three letters of recommendation, and a brief outline of future research plans and goals to: **Dr. Albert S. Kaplan, Chairman, Department of Microbiology, Vanderbilt University School of Medicine, Nashville, Tennessee 37232.**

Vanderbilt University is an Equal Opportunity/Affirmative Action Employer.

Director Space Telescope Science Institute

The Association of Universities for Research in Astronomy, Inc. (AURA), invites applications and nominations for the Directorship of the Space Telescope Science Institute (ST ScI), to be located on the Homewood Campus of The Johns Hopkins University in Baltimore, Maryland. ST ScI operated by AURA, Inc., is funded by NASA and is dedicated to the operation of the Space Telescope for research in space astronomy. The director will be primarily responsible for the management of the ST ScI and for the scientific planning and operations of the Space Telescope, and in this position the Director will report through the Associations President to the Board of Directors. The Director also will be offered a tenured professorship at The Johns Hopkins University, subject, of course, to normal academic criteria for such a tenured position.

The Director should have an earned doctorate in a physical science, and a thorough understanding of the nature and purpose of a research-oriented astronomical institute. Experience in the supervision of major scientific research projects and state-of-the-art experimental techniques is highly desirable. The successful candidate will be a distinguished scientist as demonstrated by a record of significant publications and will have the ability to manage an organization including both scientific and non-scientific employees. The Director must be effective in liaison with NASA, ESA, and the national and international scientific communities.

Applications, each accompanied by a resume and names and addresses of at least three professional references, or nominations with supporting statements should be submitted as soon as possible and no later than March 15, 1981 to:

**Dr. E. Margaret Burbidge, Chair
Space Telescope Science
Institute Council
AURA, Inc., Corporate Office
1002 N. Warren Avenue
Tucson, AZ 85719**

An Equal Opportunity/
Affirmative Action
Corporation



POSITIONS OPEN

ASSISTANT PROFESSORS OF COASTAL OCEANOGRAPHY. We anticipate two new tenure-track faculty positions at the assistant professor level for the fall semester 1981. One position is for a **coastal physical oceanographer/hydrodynamicist** with expertise in waves. The other position is for a **biological oceanographer/marine biologist** with expertise in one or more of the following areas: fishery oceanography/ichthyology, marine microbiology, marine botany with a specialization in macrophytes, salt marsh ecology, and benthic ecology. Send resume and three letters of reference by 8 March 1981 to: **Chair, Search Committee, Marine Sciences Research Center, State University of New York at Stony Brook, Long Island, N.Y. 11794. The State University of New York is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR OF SOIL SCIENCE. Applications are invited for a tenure-track position available 1 July 1981. The area of specialization is soil management and conservation with 70 percent research and 30 percent teaching time commitments. Research should address management and use of soils in New York which have physical limitations for plant growth. Interaction with programs in fundamental and applied aspects of field crop production and in cooperative extension is expected.

Applicants should send curriculum vitae, transcripts, and names of three referees to: **R. F. Lucey, Chairman, Department of Agronomy, Cornell University, Ithaca, N.Y. 14853.** Application deadline is 31 March 1981.

An Equal Opportunity/Affirmative Action Employer

ASSISTANT RESEARCH BIOCHEMIST

Applications are invited for an assistant research biochemist in a large, active laboratory in the Department of Biochemistry and Biophysics at the University of California, San Francisco. Candidates should have at least 3 years of relevant postdoctoral experience in the areas of cell tissue culture, recombinant DNA techniques, use of SV40 as an eukaryotic vector, cell transformation, use of teratocarcinoma cells in studying differentiation, and DNA sequencing. The successful candidate should be able to carry out a substantially independent research program in the area of eukaryotic gene expression and differentiation.

Candidates should submit curriculum vitae (including a list of references), the names (only) of at least three persons willing to write letters of reference, and any other relevant material by 31 March to: **Search Committee, Department of Biochemistry and Biophysics, University of California, San Francisco, San Francisco, Calif. 94143. The University of California is an Equal Opportunity/Affirmative Action Employer.**

BIOCHEMIST. Postdoctoral position in lipids, protein chemistry, glycoproteins, biochemistry of plant pathogen interaction. Send application and three letters of recommendation by 1 April 1981 to: **P. E. Kolattukudy, Institute of Biological Chemistry, Washington State University, Pullman, Washington 99164. An Affirmative Action/Equal Opportunity Employer.**

The **DEPARTMENT OF BIOLOGY at IDAHO STATE UNIVERSITY** is accepting applications for two new faculty for renewable 9-month appointments, to begin 20 August 1981, as follows:

- 1) **HUMAN PATHOLOGIST/PHYSIOLOGIST**, with expertise in descriptive pathology, pathophysiology, and mammalian physiology;
- 2) **HUMAN ANATOMIST**, with expertise in head and central nervous system anatomy and microscopic anatomy desired.

These are grant-funded positions which carry a starting salary of \$18,000 plus benefits. A doctorate is required. The successful applicants will be expected to participate in the department's graduate, undergraduate, research, and public service programs. Aspirants should send transcripts, curriculum vitae, evidence of instructional experience and research potentials (including a one-page statement of educational philosophy), and the names and telephone numbers of at least three references to: **Chairman, Pathologist OR Anatomist Search Committee (whichever applies), Department of Biology, Idaho State University, Pocatello, Idaho 83209.** The closing date for receipt of application materials is 20 March 1981. *Idaho State is an Affirmative Action/Equal Opportunity Employer; applications from women and minorities are urged.*

POSITIONS OPEN

ASSOCIATE DIRECTOR ECOSYSTEM RESEARCH CENTER CENTER FOR ENVIRONMENTAL RESEARCH CORNELL UNIVERSITY

The Ecosystem Research Center (ERC), an administrative unit of the Center for Environmental Research, is funded by the Environmental Protection Agency (EPA) to conduct anticipatory studies on the application of ecosystem science to environmental problems. The associate director will assist the director in planning, implementation, and supervision of research programs in the ERC, and will establish liaison with EPA laboratories, program officers, and individuals in the public sector as well as participate in meetings and seminars. This is a 2-year position beginning 1 August 1981. The successful candidate will also hold a faculty appointment in an appropriate academic department. Deadline for submission of applications is 31 March 1981. Applications, curriculum vitae, and the names and addresses of three references should be sent to:

**Dr. Simon A. Levin
Ecosystem Research Center
468 Hollister Hall
Cornell University
Ithaca, New York 14853**

Cornell University is an Equal Opportunity/Affirmative Action Employer.

Center for Endocrinology, Metabolism and Nutrition Northwestern University Medical School ASSOCIATE RESEARCH SCIENTIST

Opening available immediately for individual with two or more years of postdoctoral experience in biochemistry or cell biology with special competence in phospholipid or cell membrane metabolism. Experience with cell isolation, tissue culture, and mechanisms of hormone actions desirable. Salary negotiable. Send curriculum vitae and three letters of recommendation to: **Norbert Freinkel, M.D., Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Ill. 60611. Northwestern University is an Equal Opportunity Employer.**

BIOCHEMICAL TOXICOLOGIST. Assistant professor of environmental toxicology and assistant toxicologist in the Agricultural Experiment Station. Eleven-month appointment; 40 percent teaching, 60 percent research. Requirements include Ph.D. in biochemistry, pharmacology and/or toxicology, or another discipline with strong biochemical training, and research experience in biochemical toxicology, involving plants or animals. Responsibilities include research in the comparative biochemistry of xenobiotic metabolism, toxic action, and detoxication as related to agricultural and environmental concerns, and teaching the equivalent of two formal courses per year from existing offerings. Send resume, transcripts (official transcripts, if you have completed your Ph.D. within the past 5 years), list of publications, and the names and addresses of three references to: **Chairman, Search Committee, Department of Environmental Toxicology, University of California, Davis, Calif. 95616, prior to 15 April 1981.** Available 1 July 1981. *The University of California is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

CELL BIOLOGIST. Applicants are invited for a tenure-track appointment as assistant professor of biology for 1 September 1981. Ph.D. and evidence of teaching and research capabilities are required. Candidate must have expertise in tissue culture and ability to develop a research program relating to cell structure and function. Curriculum vitae, three letters of recommendation, and other relevant material should be sent to: **Dr. I. Galinsky, Chairman, Department of Biology, Hofstra University, Hempstead, New York 11550. Hofstra University is an Equal Opportunity/Affirmative Action Employer.**

The Department of Biological Sciences at Dartmouth College invites applications for a temporary opening in **CELLULAR AND DEVELOPMENTAL BIOLOGY.** We anticipate making a 1-year appointment with a possibility of a 1-year extension. Appointment will be at the level of assistant professor and will carry a limited teaching obligation with more than usual time for research. The department welcomes applications from all qualified persons. Address inquiries to: **Dr. Thomas B. Roos, Chairman, Department of Biological Sciences, Dartmouth College, Hanover, N.H. 03755. Dartmouth College is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

DEPARTMENT OF BOTANY MIAMI UNIVERSITY

Applications are invited for a tenure-track faculty position at the rank of assistant professor. The areas of botany that will be considered are plant morphology, plant anatomy, and paleobotany. Candidates are expected to have a commitment to undergraduate and graduate instruction and an active research program. Applications, curriculum vitae, and three letters of recommendation should be sent to: **Thomas K. Wilson, Chairman of Personnel Committee, Department of Botany, Miami University, Oxford, Ohio 45056**, by 6 March 1981. *Miami University is an Equal Opportunity/Affirmative Action Employer.*

BIOCHEMISTRY CHAIRPERSON

The Ohio State University is reopening its search for a chairperson for its new, unified Department of Biochemistry. This department, combining the departments of biochemistry and physiological chemistry, will comprise approximately 70 graduate students and 30 faculty, and will have the responsibility for graduate programs in biochemistry and for all undergraduate and professional biochemistry instruction. The new chairperson will be expected to provide leadership in the development of this newly combined department and to foster an atmosphere conducive to excellent research and teaching in biochemistry. The individual sought will qualify for the rank of professor, have a distinguished record of research and teaching, and be pursuing an active, ongoing research program which would be continued at Ohio State.

Applications and nominations should be sent by 15 March 1981 to: **Chairman, Biochemistry Search Committee, The Ohio State University, 203 Administration Building, 190 North Oval Mall, Columbus, Ohio 43210**.

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

CHAIRMAN, Department of Bacteriology and Biochemistry, College of Agriculture, University of Idaho. Responsible for operation of department, including research and teaching in areas of bacteriology, biochemistry, and food science. Closing date: 1 April 1981. Contact: **Professor C. F. Petersen, Chairman, Search Committee, Department of Animal Sciences, University of Idaho, Moscow, Idaho 83843; telephone: 208-885-6345**. *An Equal Opportunity/Affirmative Action Employer and Educational Institution.*

CHAIRMAN DEPARTMENT OF ANATOMY

Applications are invited for the position of **professor and chairman** of the Department of Anatomy, Texas College of Osteopathic Medicine (TCOM), Fort Worth, Texas. Applications are sought from individuals with an acknowledged history of providing quality education to medical and graduate students and who have demonstrated research productivity. Candidates should show evidence of a commitment to academic excellence, leadership, administrative skills, and ability to obtain extramural funding. Interested individuals should submit complete curriculum vitae and the names of three references to: **James B. Reeves, Ph.D., Chairman, Anatomy Search Committee, TCOM, Camp Bowie at Montgomery, Fort Worth, Texas 76107**. Texas College of Osteopathic Medicine is a state-supported medical school under the Board of Regents of North Texas State University and is dedicated to academic and research excellence. *An Equal Opportunity/Affirmative Action Employer.*

CHAIRPERSON—Department of Biochemistry, University of Montreal, Canada. A search has just begun to find a chairperson for the Department of Biochemistry of the Faculty of Medicine for 1 July 1981. The department has a good number of active investigators and is responsible for the biochemistry teaching programs at the Faculty of Medicine and at the Arts and Sciences Faculty of the University of Montreal. We are looking for a person with broad experience in research and teaching who has demonstrated administrative ability. Knowledge of French is necessary. Interested candidates should send a letter of application with their curriculum vitae and names and addresses of three references to: **Dr. Serge Carrière, Chairman, Biochemistry Search Committee, Department of Physiology, Faculty of Medicine, University of Montreal, Montreal, Quebec, Canada H3C 3T8**.

POSITIONS OPEN

CYTOGENETICIST, Ph.D.

A tenure-track position will be available beginning April 1981. Responsibilities include directorship of the Cytogenetics Laboratory, research, and teaching in the field of medical genetics. Rank and salary depend on experience. Please submit curriculum vitae, a statement of research and teaching experience, transcripts, and three letters of recommendation to: **Dr. Ian Burr, Acting Director of Genetics, Department of Pediatrics, Vanderbilt Medical Center, Nashville, Tenn. 37232**. *Equal Opportunity Employer.*

DIRECTOR, WAKSMAN INSTITUTE OF MICROBIOLOGY—Rutgers, The State University of New Jersey, invites applications or nominations for the position of director of the Waksman Institute of Microbiology in New Brunswick, New Jersey. The director is the chief executive officer and educational leader of one of the major research units of the University. The new director will play a central role in the planned expansion of the Institute.

The current interests of the Institute's faculty are focused in three major areas: molecular genetics and cell regulation, synthesis and function of microbial products, and immunology and virology. The total staff of the Institute is about 100 persons including 35 with doctoral degrees. The Institute is concerned primarily with research and its applications, but also participates in the University's educational programs.

Qualifications: Earned doctorate; significant research accomplishments and recognition; and administrative capability.

Position available on or after 1 July 1981.

Send letters of application, nominations, or inquiries for further information to: **Dr. Alan D. Antoine, Chairman, Search Committee, c/o Office of the Vice President for University Personnel, Rutgers, The State University, New Brunswick, New Jersey 08903**.

All material will be held in confidence. *An Affirmative Action/Equal Opportunity Employer.*

DIRECTOR OF NEUROPATHOLOGY

The University of Miami/Jackson Memorial Medical Center is seeking a full-time faculty member to participate in diagnostic neuropathology, teach undergraduate and graduate courses, and become involved with research programs. We have an active AMA-approved training program. Will fill at professor/associate professor level, depending upon experience. Starting date is 1 July 1981.

Send résumé to: **Azoides R. Morales, M.D., Professor and Chairman, Department of Pathology (D-33), University of Miami School of Medicine, P.O. Box 016960, Miami, Florida 33101**.

An Equal Opportunity/Affirmative Action Employer

ENGINEERING SCIENCE AND DEVELOPMENT PROGRAM

A Washington, D.C., scientific institute is seeking candidates for **professional associate** in the international science, technology, and development area. Responsibilities: Direct work of study panels of experts concerned with technology innovation or adaptation for solving selected problems of developing countries. Qualifications: Background in engineering or related sciences. Master's degree or equivalent plus 5 years of experience in technology application; broad knowledge and interest in applied technology with particular emphasis on developing country problems; proven ability to direct studies and to write reports translating technical results into language understandable to nontechnical readers. Overseas travel required. Submit résumé to: **Box 45, SCIENCE**. *An Equal Opportunity Employer.*

SCIENCE AND DEVELOPMENT PROGRAM

A Washington, D.C., scientific institution is seeking candidates for an opening for **professional associate** in the international science, technology, and development area. Responsibilities: Coordinate and arrange workshops, meetings, and U.S. participation in international meetings contributing to production of reports on varied aspects of science, technology contributing to economic and social development in developing countries. Qualifications: Ph.D. or equivalent in applied science area, preferably involving both social and natural sciences; at least 4 years of experience teaching and/or research in area; training and/or working knowledge of overseas development philosophies and programs, administrative experience, and French language facility desirable; ability to write well essential. Overseas travel required. Submit résumé to: **Box 46, SCIENCE**. *An Equal Opportunity Employer.*

Deputy Director Space Telescope Science Institute

The Association of Universities for Research in Astronomy, Inc. (AURA), invites applications and nominations for the Deputy Directorship of the Space Telescope Science Institute (ST ScI), to be located on the Homewood Campus of The Johns Hopkins University in Baltimore, Maryland. ST ScI operated by AURA, Inc., is funded by NASA and is dedicated to the operation of the Space Telescope for research in space astronomy. The Deputy Director reports to the Institute Director and is primarily responsible for assisting the Director in the operational management of the Institute.

The Deputy Director should have an advanced degree in a physical science, mathematics, engineering, computer science, or business administration, and experience in computer programming in large-scale data handling and processing. The successful candidate will have a thorough understanding of the nature and purpose of a research-oriented astronomical institution and the ability and appropriate experience to assist the Director in planning, functional operations, and management of such a facility.

Applications, each accompanied by a resume and names and addresses of at least three professional references, or nominations with supporting statements should be submitted as soon as possible and no later than March 15, 1981 to:

**Dr. E. Margaret Burbidge, Chair
Space Telescope Science
Institute Council
AURA, Inc.,
Corporate Office
1002 N. Warren Avenue
Tucson, AZ 85719**

*An Equal Opportunity/
Affirmative Action
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RESEARCH SCIENTISTS

CETUS CORPORATION, a leader in the use of modern biotechnology for the development of commercially significant products, is continuing to grow. We are looking for postdoctoral scientists of the highest caliber with expertise in one or more of the following areas:

MICROBIAL PHYSIOLOGY—Biochemistry, physiology, controls.

RECOMBINANT DNA TECHNOLOGY—Cloning and expression of cloned genes.

ENZYMOLGY—Characterization, protein chemistry, immobilization, enzyme mechanisms.

In addition to expertise in specific areas, candidates must have demonstrated their ability to creatively design and direct successful research efforts using current technologies. Successful applicants will join an outstanding team of staff scientists and consultants in a highly-motivated, goal-oriented atmosphere. Please send resume and salary expectations, in confidence, to:

cetus

Box KK, 600 Bancroft Way
Berkeley, California 94710

An equal opportunity employer.

Director, Institute for the
Medical Humanities
The University of Texas
Medical Branch (UTMB)
Galveston, Texas

The director is in charge of staff and programs and has the responsibility of designing and promoting the structure and the programs of the Institute and relating them to other elements of the Medical Center.

Candidates should be learned and experienced in the humanities and the social and behavioral sciences, particularly as regards professional training, teaching, and practice, and should be recognized as persons of sound medical understanding and experience. Candidates should show evidence of substantial scholarly accomplishments.

The director must be able to recruit persons of scholarly and pedagogic achievements or promise, attract fellows and graduate students, and guide, assist, stimulate, and support their work. The candidate will be expected to develop and maintain support from internal sources and appropriate state, federal, and foundation sources through local, regional, national, or international agencies, programs, and organizations. The director prepares and manages the Institute's budget and other fiscal matters.

The director must have or be qualified for tenure and full professorship, and have sound skills in writing and teaching students in various branches and stages of development throughout the University Medical Center. Commitment to and participation in community, state, and national affairs as they relate to the work and mission of the Institute are vital.

Interested persons should contact: Melvyn H. Schreiber, M.D., Chairman, Medical Humanities Search, Department of Radiology, University of Texas Medical Branch, Galveston, Texas 77550.

UTMB is an Affirmative Action Employer.

POSITIONS OPEN

CHIEF OF CHEMICAL PATHOLOGY ASSOCIATE OR FULL PROFESSOR

University of California, Irvine, Department of Pathology, is recruiting for a faculty position at associate or full professor level. Required: M.D., clinical Board-eligible/qualified, service experience in clinical chemistry, demonstrated success in independent research and teaching. Duties: to direct Division of Chemical Pathology and to be responsible for medical students and house staff teaching in this area. Position effective 1 July 1981. *An Affirmative Action Employer.* Send curriculum vitae and references to: H. Simpkins, M.D., Ph.D., University of California, Irvine, Department of Pathology, 101 City Drive South, Orange, Calif. 92804, by 27 March 1981.

ELECTRON MICROSCOPIST

We are searching for an outstanding electron microscopist to set up and maintain functioning of a fully equipped interdepartmental electron microscopy facility. This is a tenured position and the applicant should be willing to interact with the various departments of the Biozentrum, including Cell Biology, Biochemistry, and Pharmacology. It is expected that the candidate will also pursue his/her own research interests and the means to facilitate this will be provided. The possibility of interaction with other groups in the same institution working on new developments of electron microscopy is open.

For further information please contact:

Administrative Secretary
Electron Microscopy Search Committee
Biozentrum der Universität
Klingelbergstrasse 70
CH-4056 Basel, Switzerland

ENVIRONMENTAL SCIENTIST. Research faculty position in the area of environmental assessment at the Savannah River Ecology Laboratory, University of Georgia. Applicants should have Ph.D., broad training and/or experience in environmental sciences, proficiency in oral presentations and publications in the open literature. Duties will include supervision of technicians and students, collection and synthesis of baseline data for environmental assessments, design of research programs on natural ecological systems, and general participation in the professional activities normally associated with a research faculty position. Preference will be given to those with experience in assessing the effects of environmental perturbations. Rank and salary are negotiable. Position is open to U.S. citizens only. Closing date: 31 March 1981.

Please send curriculum vitae, appropriate transcripts, copies of representative publications, and names and addresses of three referees to: Dr. Rebecca R. Sharitz, Chairman, Search Committee, Savannah River Ecology Laboratory, Drawer "E," Aiken, South Carolina 29801. *An Equal Opportunity/Affirmative Action Institution.*

EXPERIMENTAL HELMINTHOLOGIST—A tenure-track faculty position beginning 1 September 1981, at the rank of assistant or associate professor. Candidates should have extensive training in immunoparasitology and/or biochemical parasitology. The selected individual's teaching obligation will be undergraduate (general parasitology and invertebrate zoology) and graduate (the individual's specialty). The appointee will participate also in our Training Program in Parasitology. Send curriculum vitae and names and addresses of three references by 31 March 1981 to: Dr. Joseph G. Kunkel, Chairman, Helminthology Search Committee, Department of Zoology, University of Massachusetts, Amherst, Mass. 01003. *An Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITIONS. The Department of Microbiology invites applications for two tenure-track assistant professor appointments at the School of Medicine, University of Pittsburgh. Expertise in: (i) immunology or (ii) biochemical and molecular aspects of microbial pathogenesis is being sought. Candidates must have a Ph.D. or M.D. degree and at least 2 years of pertinent postdoctoral research experience. Successful applicants will participate in the teaching of both medical and graduate students and are expected to establish a strong independent program of research. Send curriculum vitae, bibliography, and names and addresses of three references to: Dr. Julius S. Youngner, Department of Microbiology, School of Medicine, University of Pittsburgh, Pittsburgh, Pa. 15261. *The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

EPIDEMIOLOGY: CANCER/CARDIOVASCULAR DISEASE/METHODOLOGY. Applications are invited for two tenure-ladder positions in the Division of Epidemiology, University of California, Los Angeles (UCLA), School of Public Health. Candidates for these positions should have a doctoral degree (Ph.D., Dr.P.H., or M.D.-M.P.H.), a strong background in epidemiologic methodology, and experience and training in the fields of cancer or cardiovascular disease. These faculty members would be expected to develop courses and carry out research in their area of expertise. The appointments would be at the assistant professor level, or higher levels commensurate with the individual's qualifications and experience. A person with suitable qualifications would also be a candidate for head of the epidemiology program, which presently has 12 full-time faculty, teaching both chronic and infectious disease epidemiology. A commitment to maintaining and expanding the strong teaching programs of the Division is essential. *The University of California is an Equal Opportunity/Affirmative Action Employer; applications from minority and women candidates and other qualified persons are encouraged.* Candidates should submit curriculum vitae and three references to: Professor Barbara Visscher, M.D., Dr.P.H., Division of Epidemiology, School of Public Health, University of California, Los Angeles, California 90024. Applications should be sent as soon as possible and will be accepted until 1 April 1981 or until positions are filled.

EXPERIMENTAL OR PHYSIOLOGICAL PSYCHOLOGIST

Postdoctoral or research associate position to work on a collaborative project concerning interaction between psychological states and neurochemical systems. Initial emphasis to be on relationships between learned helplessness, pain, and endogenous opioid systems. A very strong background in experimental psychology is essential. This position will be primarily located at Stanford and will involve a collaboration between Dr. Steven Maier at the University of Colorado and Dr. Jack Barchas at Stanford. Please send statement of interests, curriculum vitae and publications, as well as names of references to: Drs. Maier and Barchas, Nancy Pritzker Laboratory of Behavioral Neurochemistry, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, Calif. 94305. *Stanford is an Equal Opportunity Employer.*

FACULTY POSITION—BIOCHEMISTRY

Applications are invited for a tenure-track appointment at the assistant professor level. Preference will be given to candidates with research interests complementary to those of the present members of the faculty. Please direct, by 15 March, curriculum vitae, a brief description of research plans, and letters from three references to: Search Committee, Department of Biochemistry, Dartmouth Medical School, Hanover, N.H. 03755. *An Equal Opportunity/Affirmative Action Employer.*

FACULTY RESEARCH POSITION IN BIOCHEMISTRY available at level of instructor or assistant professor. Work involves biochemical studies on recently discovered regulatory factors in bone metabolism. Experience desirable, but not required, in protein purification, cell cycle analysis, cell differentiation, immunochemistry, RIA, membrane receptor studies, or molecular genetics. Very competitive salary and exceptional opportunity in a well-equipped, multidisciplinary laboratory. Contact: David Baylink, Professor of Medicine, University of Washington, and Chief, Mineral Metabolism Laboratory, American Lake Veterans Administration Medical Center, Tacoma, Washington 98493. Telephone: 206-582-8440, extension 6890. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS IN BIOCHEMISTRY, PHYSIOLOGY, AND ANATOMY with potential for long-term position. Current research activities include protein purification, cell cycle analysis, cell differentiation, immunochemistry, RIA, membrane receptor studies, histochemical and morphological analyses. Major emphasis is on studies of newly discovered regulatory factors in bone metabolism. Very competitive salary and exceptional opportunity in a well-equipped, multidisciplinary laboratory. Contact: Dr. David Baylink, Professor of Medicine, University of Washington, and Chief, Mineral Metabolism Laboratory, American Lake Veterans Administration Medical Center, Tacoma, Washington 98493. Telephone: 206-582-8440, extension 6890. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FOUR FACULTY POSITIONS DEPARTMENT OF MARINE, EARTH AND ATMOSPHERIC SCIENCES NORTH CAROLINA STATE UNIVERSITY

Tenure-track positions at the level of assistant or associate professor are available in the following areas:

PHYSICAL OCEANOGRAPHER—Specializing in numerical modeling of oceanic flows;

GEOLOGICAL OCEANOGRAPHER—Specializing in quantitative sediment transport;

GEOPHYSICIST—All specialties considered; applied and exploration geophysics preferred; and

SEDIMENTARY GEOLOGIST—With an active research program in sedimentary petrology, paleontology, stratigraphy, or geochemistry.

Candidates will be expected to strengthen the graduate teaching and research programs. Applicants should forward a résumé and the names of three references by 31 March 1981 to: **Head, Department of Marine, Earth and Atmospheric Sciences, P.O. Box 5068, North Carolina State University, Raleigh, N.C. 27650.** Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION

The Department of Radiation Biology and Biophysics of the University of Rochester has a tenure-track position at the assistant or associate professor level for an individual having a productive research program in mammalian cell membrane biochemistry/biophysics. Desired areas of interest: membrane interaction, protein chemistry, cytoskeleton-membrane interaction, receptors, mechanical properties/fusion. Send a summary of plans for long-term development of research program and curriculum vitae, and arrange to have three reference letters forwarded by 18 March 1981 to:

Dr. James Coleman
Department of Radiation Biology and Biophysics
University of Rochester
School of Medicine and Dentistry
Rochester, N.Y. 14642

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

DEPARTMENT OF GEOLOGY THE UNIVERSITY OF ALBERTA EDMONTON, ALBERTA, CANADA T6G 2E3

The Department of Geology of The University of Alberta is seeking a person for a 1-year (academic year 1981-1982) sabbatical replacement in economic geology. A senior person from industry, government, or university is preferred. The applicant will be expected to share the teaching load in an ore-deposits program and to offer a course in his or her specialty. The University of Alberta maintains exceptional research facilities and is well located in terms of access to a wide variety of deposits. Salary will be commensurate with the level of appointment. Please contact: **Dr. Bruce Nesbitt, Department of Geology, The University of Alberta, Edmonton, Alberta, Canada T6G 2E3.** Telephone: 403-432-5071/3265/5395. Application deadline: 1 April 1981.

The University of Alberta is an Equal Opportunity Employer.

GLACIOLOGIST/University of Washington

The University of Washington seeks applications for a tenure-track position, with the individual to be appointed as assistant professor jointly in the Department of Atmospheric Sciences and Geophysics Program. Principal research interest of candidates should be directed toward geophysical or climate-related study of snow or ice. Candidates specializing in physical processes in snow are of particular, but not exclusive, interest. All applicants should be committed to graduate-level teaching, research advising, and innovative research emphasizing advanced experimental methods and rigorous physical analysis. Duties will include teaching one or two undergraduate courses per year in atmospheric sciences. The appointment starts in September 1981. A Ph.D. is required. For additional information, telephone: **C. F. Raymond at 206-543-4914.** Interested person may send a résumé and four letters of recommendation to: **Professor R. T. Merrill, Geophysics Program AK-50, University of Washington, Seattle, Washington 98195.** Deadline for application is 31 March 1981.

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20 FEBRUARY 1981

DRUG METABOLISM RESEARCH

Pfizer Central Research is seeking individuals with Ph.D. degrees in Biochemistry, Analytical Chemistry or a related field to join a large established multi-disciplinary team of researchers involved in the discovery and development of new drugs. Relevant research experience beyond the Ph.D. is desirable.

Responsibilities will include development of assays for drugs in biological matrices, pharmacokinetic studies in animals and man, synthesis of radiolabeled drug, metabolite isolation and identification, determination of excretion patterns, tissue distribution studies, and *in vitro* metabolism experiments. In the performance of these tasks, there will be opportunities for considerable interaction with scientists in other disciplines.

These positions provide an excellent opportunity for professional recognition and career growth. In addition, we offer a competitive compensation and benefit package and the opportunity to live in an attractive Connecticut Shore community. Please send resume in confidence to: **Mr. F. G. Ziegler, Pfizer Central Research, Eastern Point Road, Groton, Connecticut 06340.**

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**KING FAISAL UNIVERSITY
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FACULTY POSITIONS OPEN
1981-1982**

King Faisal University College of Medicine, now in its seventh year, invites applications from qualified men and women for the 1981-1982 academic year in:

CHEMISTRY	PATHOLOGY
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PHYSICS	MICROBIOLOGY
BIOCHEMISTRY	PARASITOLOGY
ANATOMY	PHARMACOLOGY
PHYSIOLOGY	COMMUNITY MEDICINE

Doctorate or equivalent degree required. Language of instruction is English. Interviews to be held in London and Houston during February and April 1981.

SALARIES are highly competitive and negotiable; comparable to other Saudi universities.

BENEFITS include free, furnished housing, educational allowances, air tickets to and from Saudi Arabia once each year for a family of four, 60-day paid vacation, liberal overweight allowance. No Saudi income tax. Send curriculum vitae with current telephone number and the names and addresses of three references to:

Dr. Tawfiq Tamimi
Dean, College of Medicine
King Faisal University
c/o Saudi Arabian
Educational Mission
2425 West Loop South
Houston, Texas 77027
OR
c/o P.O. Box 2
Sudbury-on-Thames
Middlesex TW16 5JP
England

FACULTY POSITION

Applications are invited for a position as Assistant Professor of Oncology. Persons who apply should have a strong background in biochemistry and/or molecular biology and be prepared to develop the fundamental research program in the general areas of mechanisms of chemical and/or radiation carcinogenesis at the cellular, genetic, and/or molecular levels. The research program of the applicant should be complementary to other investigations in carcinogenesis at the McArdle Laboratory and contribute to the interactive research environment of the laboratory. Each applicant should submit a curriculum vitae, list of publications, and the names and addresses of at least 3 persons qualified to evaluate the applicant in a 2-3 page statement of research accomplishments and future objectives. All well qualified individuals are encouraged to apply. This position will be available March 1, 1982.

The University of Wisconsin School of Medicine is an Equal Opportunity Employer committed to a program of affirmative action.

Send applications to:

Dr. Henry C. Pitot
Dept. of Oncology
McArdle Laboratory for
Cancer Research
University of Wisconsin
Madison, Wisconsin 53706



POSITIONS OPEN

**FACULTY POSITION IN PHARMACEUTICS
UNIVERSITY OF PITTSBURGH
SCHOOL OF PHARMACY**

Applications are invited for a faculty position as assistant or associate professor in the Department of Pharmaceutics of the University of Pittsburgh School of Pharmacy. Appointment to begin 1 July 1981, or soon thereafter. Applicants should possess a baccalaureate degree from an accredited college of pharmacy and a Ph.D. degree in pharmaceutics with specialization in physical pharmacy. Applicants must be qualified to teach both undergraduate and graduate courses in dosage form technology and physical pharmacy. A strong background in analytical chemistry, physical chemistry, mathematics, or computer science is desirable. The successful applicant is expected to participate in the graduate program and to develop an independent research program. Salary will be commensurate with qualifications and experience.

Interested applicants should send a letter of application, prior to 30 April 1981, accompanied by curriculum vitae with a complete bibliography, brief outline of current research interests and future research objectives, and the names and addresses of four to six persons for reference to: **Dr. Theodore R. Bates, Chairman, Department of Pharmaceutics, University of Pittsburgh School of Pharmacy, 709 Salk Hall, Pittsburgh, Pa. 15261.**

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

Tenure **FACULTY POSITION**—Associate or full professor in planetary atmospheric sciences. It is expected that an opening will soon become available for a senior scientist who has demonstrated accomplishment in the area of atmospheric sciences. Preference will be given to an individual whose interests are in atmospheric chemistry with particular stress on the composition and evolution of planetary atmospheres. The successful individual will have a joint appointment in the Department of Atmospheric Sciences and the Institute of Geophysics and Planetary Physics. Please send résumés to: **Leon Knopoff, Institute of Geophysics, University of California, Los Angeles, Los Angeles, Calif. 90024.** An Equal Opportunity/Affirmative Action Employer.

University of Kentucky: **FACULTY POSITION IN PHARMACOLOGY.** Tenure-track position available 1 July 1981 in a multidisciplinary basic science department. Must have teaching experience and active research program. Responsibilities include teaching predoctoral, postdoctoral, and graduate students, and maintaining a strong research program. Application deadline: 1 April 1981. *Affirmative Action/Equal Opportunity Employer.* Send curriculum vitae to: **Dr. Thomas T. Lillich, Department of Oral Biology, University of Kentucky College of Dentistry, Lexington, Kentucky 40536.**

IMMUNOLOGIST with postdoctoral experience to do research at staff level on humoral autoimmunity in humans. Contact: **Peter C. Dau, M.D., Children's Hospital of San Francisco, 3700 California Street, San Francisco, Calif. 94118.**

Stauffer Chemical Company is seeking applications for a **MICROBIAL GENETICIST** position in our Biological Research Group. The position is located in recently constructed laboratories in Richmond, California. Applicants will be considered at the Ph.D. or equivalent level. Experience with bacteriophage and pilot-scale fermentors is desired in addition to mutational techniques. The research will support and improve our MSG fermentation process.

We offer a competitive salary and fringe benefits package, in addition to an attractive San Francisco Bay location.

If you are interested in an opportunity with Stauffer, send your confidential résumé, statement of research interests and experience, and names of three references to:

D. A. Walker
Personnel Manager
Stauffer Chemical Company
1200 South 47 Street
Richmond, Calif. 94804

Stauffer is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

INSECT PHYSIOLOGIST. Full-time, 11-month, tenure-track appointment at assistant professor level beginning 1 September 1981. Research to emphasize physiological adaptations, such as those related to growth, dormancy, reproduction, migration, and host selection. Teach annual undergraduate course in insect physiology and conduct graduate seminars. Qualifications include a Ph.D. degree and evidence of outstanding potential for teaching and research in physiology of insects. Applications should include the following: (i) curriculum vitae, academic transcripts, and evidence of teaching skills and experience; (ii) bibliography and reprints of significant publications or manuscripts; and (iii) a statement outlining research areas and approaches proposed. Applicant also should furnish the names and addresses of at least three people who can provide recommendations. Submit all materials by 1 July 1981 to: **E. S. Sylvester, Chairman, Department of Entomology/Parasitology, 201 Wellman Hall, University of California, Berkeley, Calif. 94720.** *The University of California is an Affirmative Action Employer.*

EXPERIENCED SECONDARY SCIENCE INSTRUCTOR: Needed to teach biology and chemistry at highly competitive, rural, Roman Catholic, college-preparatory boarding school for boys. Some graduate work and experience required. Extracurricular interests desirable. Send résumé and references to: **Headmaster, Portsmouth Abbey School, Portsmouth, R.I. 02871.**

The Deep Sea Drilling Project, Scripps Institution of Oceanography, University of California, San Diego, is currently seeking to fill position for **MARINE SEDIMENTOLOGIST, MICROPALEONTOLOGIST, or PHYSICAL PROPERTIES SPECIALIST**, Ph.D. level. Strong background in mineralogy and sedimentary petrology, micropaleontology, or physical properties is required. This position is for a project staff scientist who will engage in project-related and independent scientific research for a period of at least 1 year.

Appointment anticipated in assistant through associate professional research series; salary commensurate with experience. Please send complete résumé and names of at least three references to: **Dr. Yves Lancelot, Deep Sea Drilling Project, Mail Code A-031, University of California, La Jolla, California 92093.**

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

MICROBIOLOGIST

Microbiologists interested in molecular aspects of regulation are invited to apply for a tenure-track faculty position. We are seeking an individual who will develop an active program in a department committed to research excellence. Rank and salary are open. Send curriculum vitae, copies of relevant publications, and names of three references to: **Dr. David Njus, Department of Biological Sciences, Wayne State University, Detroit, Michigan 48202.** *An Equal Opportunity/Affirmative Action Employer.*

MICROBIOLOGY/IMMUNOLOGY. Applications are invited for a tenure-track position at the assistant professor level available for August 1981 in the Department of Microbiology. Applicants must have Ph.D. and postdoctoral research experience in some aspect of modern immunology. Duties will include teaching undergraduate and graduate courses in the areas of infection and immunity. The individual must develop an active research program and direct M.S. and Ph.D. students. Send curriculum vitae, statement of research goals, and three letters of recommendation by 15 April 1981 to: **Dr. Ronald W. Treick, Department of Microbiology, Miami University, Oxford, Ohio 45056.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION IN
BIOCHEMISTRY, LOUISIANA STATE
UNIVERSITY (LSU) MEDICAL CENTER**

A postdoctoral position is available to study cyclic AMP-dependent protein kinase and their substrates in brain and skeletal muscle. Experience in enzymology or neurochemistry is desirable, but not required. Salary: \$14,000, depending upon experience. Send curriculum vitae and names of three references to the following:

Robert Roskoski, Jr., Head
Department of Biochemistry
LSU Medical Center
New Orleans, La. 70112

Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

MOLECULAR BIOLOGIST

A position as assistant professor (tenure track) is available for a person with a background in prokaryotic molecular biology and a research interest in some aspect of molecular genetics. A knowledge of plasmid biology and recombinant DNA techniques is desirable.

The successful candidate is expected to develop a vigorous research program. Teaching responsibilities will include graduate education and basic bacteriology for medical students.

Send curriculum vitae and the names of three references by 15 March to:

Dr. Harry W. Taber, Chairman
Search Committee

Department of Microbiology and Immunology
Albany Medical College of Union University
Albany, New York 12208

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PATHOLOGIST. M.D. degree, completion of pathology residency program, and at least 2 years of additional training. Eligibility for pathology Board-certification. Position includes diagnostic pathology requiring training in electron microscopic, biochemical, and immunologic investigative techniques as applied to human tumors as well as teaching and research activities. Initial appointment will be at the instructor level with possibility of future promotion.

Send curriculum vitae and three letters of reference by 6 March 1981 to: **J. W. Grisham, M.D.,** Department of Pathology, University of North Carolina School of Medicine, Chapel Hill, N.C. 27514.

COLBY-SAWYER COLLEGE announces a faculty position in **PHYSICS** for September 1981. One-year, full-time faculty position with rank of instructor or assistant professor. A master's in physics is required. Responsibilities include teaching general physics, a science survey which includes some astronomy and meteorology and biophysics. By 30 March, send a letter of application and résumé to: **The Provost, Colby-Sawyer College, New London, N.H. 03257.** *Colby-Sawyer College is an Equal Opportunity Employer.*

PLANT BIOLOGIST

The School of Life and Health Sciences is seeking a plant biologist to complement a strong research group in ecology and organismic biology. Desirable research areas include plant population biology, reproductive biology, genetic structure of plant populations, plant systematics, plant/animal interactions, and plant physiological ecology. Temperate and tropical researchers are encouraged to apply. Candidate will be expected to teach courses complementary to those in the research group and in his/her area of specialty. The position requires a Ph.D., and is tenure track to be filled at the assistant professor level beginning September 1981. Applicants should send curriculum vitae and statement of research interests, and should arrange to have three letters of reference sent to:

G. Fred Somers, Chairman
Plant Biology Search Committee
School of Life and Health Sciences
University of Delaware
Newark, Del. 19711

Deadline for receipt of applications is 1 April 1981.
An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION. A research associate position is open in the laboratory of Dr. Howard S. Mason to study mechanisms of oxygenase and oxidase action, using cryoenzymological and biophysical techniques in order to obtain a broad understanding of biological oxygen activation. Send curriculum vitae, brief summary of Ph.D. thesis research, and a list of three references to: **Dr. Howard S. Mason, Department of Biochemistry, University of Oregon Health Sciences Center, Portland, Oregon 97201.** *We are an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS. Two positions for candidates with Ph.D. or M.D. are available July 1981: (i) candidate with experience in protein biochemistry and enzyme kinetics to carry out studies with the renin-angiotensin system and (ii) candidate with experience in immunology, microbiology, or related fields with interests in macrophage-antigen interactions. Opportunities are available for cooperative research programs in related areas of interest. Contact: **Dr. Duane Tewksbury, Marshfield Medical Foundation, Marshfield, Wis. 54449.** *An Equal Opportunity Employer.*



KING ABDULAZIZ UNIVERSITY
JEDDAH, SAUDI ARABIA

The **INSTITUTE OF METEOROLOGY AND ARID LANDS STUDIES** within King Abdulaziz University in Saudi Arabia announces the following vacancies in the following departments:

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Aeronautical Meteorology
Climatology
Micrometeorology
Tropical Meteorology
Meteorological Data Processing
Ocean Atmosphere Interaction
Cloud Physics and Weather Modification
Solar Energy
Numerical Modeling

DEPARTMENT OF ARID LANDS STUDIES

Crop Production
Plant Breeding
Forage and Pasture Production
Vegetable Production (General)
Fruit Production
Floriculture
Range Management
Silviculture
Forest Management
Soil (Chemistry and Fertility)
Statistics and Experimental Design
Plant Physiology

DEPARTMENT OF HYDROLOGY AND WATER RESOURCES MANAGEMENT

Water Resources System Analysis
Stochastic Hydrology
Hydrogeology

DEPARTMENT OF ENVIRONMENTAL SCIENCES

Industrial Wastes
Water Pollution
Toxicology and Environmental Health
Noise Pollution
Occupational Health
Environmental Legislator
Air Pollution
Microbiology

All applicants must fulfill the following requirements:

1. Only Ph.D. degree holders or its equivalent from a reputable institution should apply.
2. A letter of application along with one copy of degrees, two reference letters and a passport size photograph should be received by the Institute not later than end of May 1981 and must be sent directly to:

Dr. Fawaz Alamy, Dean
Institute of Meteorology and Arid Lands Studies
King Abdulaziz University
P. O. Box 1540
Jeddah, Saudi Arabia

3. Qualified applicants will be interviewed and recommended for the suitable post by Institute staff.
4. Contracts will be for one year (renewable) and the successful candidates should join the Institute not later than September 20, 1981.

SALARIES AND BENEFITS: Newly furnished accommodations, two months paid annual leave, annual round trip air tickets between home town and Jeddah for candidates and three members of family, monthly pay scales are attractive and free from taxes. (See schedule)

Asst. Professor: SR8,060-9,780
Assoc. Professor: SR9,935-11,935
Full Professor: SR11,150-15,550

POSITIONS OPEN

PLANT PHYSIOLOGIST—GENETICIST

Assistant professor, potential tenure-track position on a nine-member staff beginning January 1982. Primary responsibilities: teaching undergraduate botany courses, assisting with general introductory courses, and supervising departmental greenhouse. Commitment to research interests is strongly encouraged. Ph.D. degree must be completed by date of appointment. St. Olaf is a private, coeducational college of the American Lutheran Church and has an enrollment of 3000 with 80 senior biology majors. Submit letter of application, résumé, publication list, and names of three references by 1 April 1981 to: **Dr. Marland L. Madson, Chairman, Biology Department, St. Olaf College, Northfield, Minnesota 55057.**

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POSTDOCTORAL POSITION available immediately to study the physiology of anaerobic cellulolytic bacteria. The project includes (i) isolation of diverse strains of cellulolytic bacteria and (ii) studies on their metabolic activities. Background in microbiology and biochemistry is desired. Send curriculum vitae and names of three references to: **E. Canale-Parola, Department of Microbiology, University of Massachusetts, Amherst, Mass. 01003.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION. The University of Southern California School of Medicine seeks applicants for a postdoctoral position in molecular and cellular neurobiology. Applicants must have experience in recombinant DNA technology and/or isolation and analysis of mRNA. To begin 1 July 1981 or sooner. Send curriculum vitae and three references to: **Dr. Scott Linthicum, Department of Microbiology, University of Southern California Medical School, 2025 Zonal Avenue, Los Angeles, Calif. 90033.**

POSTDOCTORAL POSITION; Cell Biology. Available 1 July 1981 for study of regulation of DNA replication and functions of tumor antigens in mammalian cells. Background in cell culture required. Training in molecular biology of nucleic acids, animal virology, or somatic cell genetics helpful. Recent Ph.D. preferred. Group includes other postdoctoral fellows and graduate students. Opportunity available for interaction with other groups interested in nucleic acids research. Send curriculum vitae and references to: **Dr. Roger Hand, Director, McGill Cancer Centre, 3655 Drummond, Montreal, Quebec, Canada H3G 1Y6.**

POSTDOCTORAL/RESEARCH ASSOCIATE CARCINOGENESIS UNIVERSITY OF WISCONSIN

Two positions available immediately. One to study cellular and biochemical aspects of chemical carcinogenesis in human and rodent mammary tissue with **Dr. N. M. Gould** and the second to study mechanisms of host resistance to Friend murine leukemia virus with **Dr. R. A. Steeves**. Send curriculum vitae, reprints, and names of three references to: **Dr. Gould or Dr. Steeves, Department of Human Oncology, 600 Highland Avenue, Madison, Wis. 53792.**

POSTDOCTORAL RESEARCH ASSOCIATE

Applications are invited from persons with backgrounds in organic chemistry, molecular biology, or biophysics. Areas of current research interest include: (i) molecular mechanisms of mutation; (ii) alteration of gene expression by carcinogens and mutagens, including polydeoxynucleotide synthesis; and (iii) physical and covalent interactions between activated carcinogens and DNA. Send curriculum vitae and two or more letters of recommendation to: **Dr. Thomas Meehan, 1910 West St. Andrews Road, Midland, Michigan 48640.** *Michigan Molecular Institute is an Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE. A recent Ph.D. in biochemistry or chemistry is sought for a position involving bioorganic studies of mechanism of catalysis of aliphatic hydroxylation of substrates by cytochrome P-450 enzymes. Project involves preparation of various enzymes, organic synthesis, stable isotopes, GC-MS, GLPC, enzyme steady-state kinetics, and spectroscopy (UV-VIS, EPR, NMR). Position available immediately; send curriculum vitae and names of two references to: **Dr. Ronald E. White, Department of Pharmacology, University of Connecticut Health Center, Farmington, Conn. 06032.**

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POSITIONS OPEN

POSTDOCTORAL TRAINING IN MEMBRANE BIOLOGY WITH APPLICATIONS TO:

Cancer chemotherapy—Analysis of anticancer drug interactions with tumor cells (membrane transport, drug metabolism, interactions with cellular targets, modeling); drug transport in plasma membrane vesicles and lipid membrane systems.

Cardiovascular—renal—The role of interfacial phenomena in transduction, trans-capillary transport, calcium transport in SR, transport in renal epithelial cells in culture, network thermodynamic modeling.

American citizenship or permanent visa required. Send curriculum vitae to: **Dr. I. David Goldman, Box 663, Medical College of Virginia, Richmond, Va. 23298.**

RESEARCH ASSISTANT PROFESSOR. Department of Physiology, School of Medicine, University of Pennsylvania. Applicant will be expected to conduct research on cellular mechanisms of pulmonary oxygen toxicity. M.D. or Ph.D. in biochemistry or physiology acceptable. Must have had 2 years or more of experience in enzymology, cell culture, and organ perfusion techniques. Applicant will be expected to obtain independent grant support for at least 50 percent of salary, which will be commensurate with experience and qualifications. Send curriculum vitae and names of three references to:

**Dr. Robert E. Forster, Chairman
Department of Physiology
School of Medicine
A-201 Richards Building/G4
University of Pennsylvania
Philadelphia, Pa. 19104**

An Equal Opportunity/Affirmative Action Employer

RESEARCH ASSISTANT PROFESSOR. The Departments of Medicine and Physiology at the University of Washington, School of Medicine, in Seattle is seeking applicants for a research assistant professor position in the field of metabolism and endocrine physiology. This position requires a highly qualified individual holding the degree of M.D. or Ph.D. with at least 2 years of postdoctoral research experience in endocrine cellular physiology and with publications in the area of pancreatic islet cell electrophysiology. The individual must have a demonstrated ability to generate independent research support including salary. Send curriculum vitae to: **Professor Daniel Porte, Jr., M.D., Veterans Administration Medical Center, 4435 Beacon Avenue South, Seattle, Washington 98108.** *Women and minorities are encouraged to apply. The University of Washington is an Equal Opportunity Employer.*

RESEARCH ASSOCIATE—A position is available for in vitro studies of hemopoietic cell proliferation, particularly erythroid cell development. Requirements include a doctoral degree and additional laboratory experience, including a record of publications in cell biology or a related discipline. Salary is commensurate with qualifications. An appropriate academic appointment with Harvard Medical School will be arranged. Please send curriculum vitae, publication list, and names of three references to: **Dr. Stephen H. Robinson, Beth Israel Hospital, 330 Brookline Avenue, Boston, Mass. 02215.** Telephone: 617-735-2131. *An Equal Opportunity Employer.*

RESEARCH ASSOCIATE (postdoctoral)—Cellular or molecular immunologists to participate in collaborative and independent research in broad areas of genetic control of the immune response in mice using synthetic polymers of amino acids. Studies concentrate on T cell receptors, factors, idiotype (antidiotypic), and hybridomas. Contact: **Paul H. Maurer, Department of Biochemistry, Jefferson Medical College, THOMAS JEFFERSON UNIVERSITY, 1020 Locust Street, Philadelphia, Pa. 19107.** *Equal Opportunity Employer.*

SCIENCE EDUCATION

Persons with exceptionally strong research and analytical skills; capabilities in teaching, advising and supervising both undergraduate and graduate students; and a rich background in the natural sciences, especially biology, are invited to apply for a tenure-track position for fall 1981. Send a résumé, references, and writing samples by 6 March 1981 to:

**W. T. Lowe
Graduate School of Education and
Human Development
University of Rochester
Rochester, New York 14627**

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POSITIONS OPEN

RESEARCH ASSOCIATE—To design and synthesize novel anthracycline derivatives as candidate anticancer agents. Laboratory studies involve synthetic manipulation of unstable materials; milligram-scale reactions; instrumental analysis; structural determination; homogeneity and purity assays; formulation, solubility, and stability tests; development of structure-activity relationships; radiolabeled synthesis; metabolite isolation and characterization. Ph.D. in chemistry; at least 2 years of experience. Knowledgeable in organic reactions, synthetic methods, interpretation of spectral data, chromatography, radioisotope handling; capable of handling small quantities of delicate materials. \$15,500 per year; 40 hours a week. Send curriculum vitae, bibliography, and names of three references to: **Mary Nelson, Division of Employment Security, Hurley Building, Government Center, Boston, Mass. 02114; telephone: 617-727-6451.** *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE—BIOLOGICAL/ CHEMICAL PHYSICS

A position is available immediately in a program studying solubility of gases in liquids and diffusion of small molecules in liquids. The aim of the research is to understand diffusion and solubility from physical first principles and to apply this knowledge to life-science and chemical problems. Typical applications are to breathing mixtures for diving and anesthetic gases and to molecular interactions in liquids. Applicants should have Ph.D. or equivalent in biophysics, physiology, or other life science with a strong interest in physics. Please send résumé to:

**Professor Gerald L. Pollack
Physics Department
Michigan State University
East Lansing, Mich. 48824**

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MONASH UNIVERSITY DEPARTMENT OF BIOCHEMISTRY SENIOR TUTOR/RESEARCH ASSOCIATES

Applications are invited from postdoctoral graduates (or those about to complete their degrees). Appointments for 2 years with extension on satisfactory performance. Senior tutors are required to undertake limited teaching to medical or science students. All appointees will join an ongoing research programme on the biogenesis of mitochondria in yeast, led by Professor A. W. Linnane, F.A.A., F.R.S., involving two main areas of investigation: membrane biochemistry; gene structure and expression (including all aspects of nucleic acid research such as cloning and sequencing). Enquiries to: **Professor A. W. Linnane.** Salary: senior tutor, A\$15,901 to A\$18,216 per annum; research associate, A\$15,901 to A\$20,103 per annum. Temporary housing assistance, travel and removal allowance, superannuation, repatriation. Applications, including Reference number 30213RA, curriculum vitae, and three references, to: **The Registrar, Monash University, Clayton, Victoria 3168, Australia,** by 15 March 1981.

STAFF ASSOCIATE

Seeking an individual with 3 or 4 years of postdoctoral experience, with a strong background in enzyme and nucleic acid chemistry, and with a strong commitment toward studying molecular evolution in vitro. Experience in the areas of virology and immunology advantageous. Salary dependent on postdoctoral level. To begin as soon as possible.

Send curriculum vitae to:

**Deputy Director of Administration
Cancer Center/Institute of Cancer Research
701 West 168 Street
New York, New York 10032**

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VISUAL SCIENTIST. The Department of Ophthalmology of Good Samaritan Hospital and Medical Center is seeking a visual scientist with research interests in using human subjects with normal and impaired vision. Possible areas of specialization include: electrophysiology, eye movements, psychophysics and biophysics of ocular fluids. The investigator would be expected to conduct an independent research program on a full-time basis. The level of staff appointment and salary will be based upon experience. Send curriculum vitae, two representative publications (or preprints), and names of two references to: **Chairman, Search Committee, Department of Ophthalmology, Good Samaritan Hospital and Medical Center, 1015 Northwest 22 Avenue, Portland, Oregon 97210.**

Expansion of our research projects in inflammation and immunomodulation has resulted in an opening for a

BIOCHEMIST

A Ph.D. in biochemistry with appropriate postdoctoral training (2-3 years) is desired. Competence is expected in the area of arachidonic acid metabolism, and experience in modern technology (e.g. RIA, HPLC) is required.

For Consideration Please
Send Resume To:

JOHN W. PINKERTON

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P.O. Box 8299
Philadelphia, Pa. 19101

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DIRECTOR

C.N.S. Pharmacology

The Pharmaceuticals Division of CIBA-GEIGY Corporation, a research based international organization dedicated to therapeutic innovation, is seeking an individual for the position of Director C.N.S. Pharmacology, located at our Summit, New Jersey facility.

The position is responsible for the leadership and administration of a substantial group of scientists whose mission, using state-of-the-art methodologies and concepts, is the recognition and development of novel psychoactive drug candidates.

Qualified candidates for this important position should have a Ph.D. degree in a Biological Science with at least ten years experience which should provide evidence of managerial capability and a proven capacity to conduct research in psychoneuropharmacology.

To be considered, please forward a detailed resume with pertinent salary information, to: Mr. C. R. Grupe, The Pharmaceuticals Division of CIBA-GEIGY Corporation, 556 Morris Avenue, Summit, New Jersey 07901. An equal opportunity employer m/f.

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Consider these key challenging opportunities to be part of an expanding staff of the recombinant DNA research program.

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HARVARD—MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) DIVISION OF HEALTH SCIENCES AND TECHNOLOGY AND MIT DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE POSITION IN BIOMEDICAL ENGINEERING

A tenure-track faculty appointment in biomedical engineering requiring a solid background in electrical engineering is available in the Harvard-MIT Division of Health Sciences and Technology (HST) with a joint appointment in the MIT Department of Electrical Engineering and Computer Science (EECS). A Ph.D. in electrical engineering, medical engineering, or biomedical engineering is required with proven in-depth competence in instrumentation areas such as analog and digital circuit design, microcomputer hardware and software, real-time signal processing, and solid-state devices. The new faculty member will be associated with the HST Biomedical Engineering Center for Clinical Instrumentation and the MIT Whitaker College of Health Sciences, Technology, and Management. Experience with and a continuing interest in the application of technology to clinical and biological problems are required. Postdoctoral experience is desirable but not required. While there is considerable flexibility concerning the candidate's medical interests and specific areas of research, the candidate will be expected to develop or join an interdisciplinary sponsored research program and to establish strong ties to a Harvard-affiliated teaching hospital.

Teaching responsibilities will probably be one course each semester either in HST (medical transducers and instrumentation) or EECS (undergraduate core or bioelectronics). Supervision of HST and EECS graduate and undergraduate thesis research is expected, often in collaboration with medical school faculty. Other responsibilities include a full range of faculty activities such as student advising and committee work.

Since we hope to fill the position by 1 July 1981, curriculum vitae should be submitted no later than 1 April 1981. They should be mailed to:

Dr. Roger G. Mark
Massachusetts Institute of Technology
Building 20A-123
Cambridge, Mass. 02139

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POSITIONS OPEN

RESEARCH MICROBIOLOGIST

Norden Laboratories, animal health industry leader in innovative, productive research, has a new position available immediately. Doctorate degree (Ph.D. or Sc.D.) preferred with study/experience in bacterial metabolism and physiology, pathogenic microbiology and Gram-negative toxins. Must have demonstrated ability to design and conduct independent research studies in various areas of pathogenic bacteriology. Assignments will include identification and purification of toxins and manipulation of these products towards development of vaccines.

Norden Laboratories is a SmithKline Corporation company, offering top-notch benefits, including company-paid life, health, and dental insurance, pension plan, matched savings and employee stock purchase plan, and many extras. Salary is open, negotiable, and dependent on appropriateness of your credentials to our position.

Please send your résumé, in complete confidence, to:

Jerome P. Judt, Personnel Manager
Norden Laboratories, Inc.
P.O. Box 80809
Lincoln, Nebraska 68501

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SENIOR ECOLOGIST. The Biology Department of George Mason University is seeking a professor for a new Ph.D. program in Environmental Biology and Public Policy which responds to the needs of and utilizes the resources of metropolitan Washington, D.C. The applicant should have a proven record in grants acquisition and an interest in the application of ecological research. A strong interest in undergraduate and graduate teaching is expected.

Complete applications containing curriculum vitae, description of research activities, and recent publications should be received by 23 March 1981. Send applications to:

Dr. Larry L. Rockwood, Acting Chairman
Biology Department
George Mason University
Fairfax, Virginia 22030

George Mason University is an Affirmative Action/Equal Opportunity Employer. Minorities are encouraged to apply.

SYMPOSIUM

INTERNATIONAL SYMPOSIUM ON RECOMBINANT DNA

The Third Cleveland Symposium on Macromolecules-Recombinant DNA will be held 22 to 26 June 1981 in Cleveland, Ohio. Twenty eminent experts from the fields of medicine, microbiology, biochemistry, pharmacology, and industry will present invited lectures on topics of fundamental and applied importance. A full social program is being organized. Those interested in contributing short papers or in obtaining further information should write to: Professor Alan Walton, Department of Macromolecular Science, Case Western Reserve University, Cleveland, Ohio 44106.

GRADUATE STUDY

GRADUATE TRAINING IN BASIC MEDICAL SCIENCES: The College of Medicine, University of South Alabama, invites applications from qualified individuals interested in pursuing the Ph.D. degree in basic medical sciences. Applications are now being accepted for September 1981 entrance into the graduate program leading to the doctorate with specialization in anatomy, biochemistry, microbiology/immunology, pharmacology, or physiology. This is a unique program designed to accept both qualified nondegree-holding students after only 3 years of appropriate undergraduate study as well as applicants holding degrees. Tuition is waived. A \$5000 per year stipend is awarded to each student accepted into the program. Applications are accepted at any time but must be completed by 30 April. For further information write:

Edwin R. Hughes, M.D., Director
Graduate Program in Basic Medical Sciences
University of South Alabama
MSB 2152
Mobile, Alabama 36688

GRADUATE STUDY

GRADUATE STUDY Predoctoral Opportunities in the Basic Medical Sciences

Loyola University Stritch School of Medicine offers graduate training leading to the Ph.D. degree in each of the following disciplines: **ANATOMY, BIOCHEMISTRY, MICROBIOLOGY, PHARMACOLOGY, and PHYSIOLOGY.** Modern well-equipped facilities, together with a low student-to-faculty ratio, provide excellent conditions for qualified students to pursue graduate education in the biomedical sciences. The expertise of the faculty and the diversity of their research interests offers a wide range of opportunities for intra- and interdepartmental studies. Stipends of \$5000 and tuition remission are available for successful applicants. For further information and application forms, address requests to (indicate in request a department of interest from above listing):

Graduate School at the Medical Center
Loyola University of Chicago
2160 South First Avenue
Maywood, Illinois 60153

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COURSE

FREEZE FRACTURE (ETCH) MICROSCOPY taught by DR. RUSSELL STEERE, U.S. Department of Agriculture at STATE UNIVERSITY OF NEW YORK

15 to 19 June; tuition: \$550. Enrollment limited to permit maximum individualized and "hands-on" instruction. For further information and application form, write or telephone: Dr. B. L. Redmond, Department of Biology, State University of New York, New Paltz, N.Y. 12561. Telephone: 914-257-2549 or 2175.

TRAINEESHIPS

GENETICS POSTDOCTORAL TRAINING OPPORTUNITIES AT THE UNIVERSITY OF ALABAMA IN BIRMINGHAM—NIH postdoctoral traineeships (\$13,380 and up) are available with preceptors from the Departments of Microbiology, Pediatrics, Medicine, Pathology, and Biochemistry. Areas and preceptors include: **Animal Virus Genetics:** Air, Bishop, Hunter, Lebowitz; **Allergic and Immunologic Diseases and Immunogenetics:** Acton, Bennett, Briles, Cooper; **Connective Tissue Diseases and Membranes:** Roden, Segrest, Thompson; **Medical Genetics:** S. Finley, W. Finley, J. Thompson; **Microbial and Molecular Genetics:** Curtiss, Knapp, Lebowitz, Shiota, Turnbough; and **Somatic Cell Genetics:** Roozen. A letter describing research interests, curriculum vitae, and three letters of recommendation should be sent to: Dr. Roy Curtiss III, Program Director, Department of Microbiology, Box 11 SDB, University of Alabama in Birmingham, Birmingham, Alabama 35294.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN IMMUNOCYTOCHEMISTRY. Work will involve hormone receptors, neuronal plasticity, chemistry of neuronal individuality, neuroendocrine precursors, monoclonal antibodies. U.S. citizenship or residency required. Inquiries, curriculum vitae, and references to: Ludwig Sternberger, Fellowship Committee, Center for Brain Research, Box 605, University of Rochester School of Medicine, Rochester, N.Y. 14642. An Equal Opportunity Employer, M/F.

POSTDOCTORAL FELLOWSHIP available immediately for studies on the isolation and characterization of enzymes in brain involved in the metabolism of opiate peptides and other neuro peptides. Experience in enzymology and/or peptide chemistry desirable. This NIDA fellowship limits eligibility to U.S. citizens or permanent residents. Send résumé and names of three references to: Director of Postdoctoral Studies, MT. SINAI SCHOOL OF MEDICINE, 1 Gustave L. Levy Place, New York, N.Y. 10029.

FELLOWSHIPS

FELLOWSHIPS available 1 July 1982, 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: \$13,000 to \$30,000. Open to international competition, 1 September 1981 deadline. Write: Director, St. Jude Children's Research Hospital, P.O. Box 318, Memphis, Tenn. 38101.

PREDOCTORAL POSITION IN PHARMACOLOGY. Tuition plus stipend fellowships available for fall 1981. The department offers a graduate program in pharmacology leading to the Ph.D. degree with active research programs in the areas of behavioral pharmacology, biochemical pharmacology, cardiovascular pharmacology, membrane pharmacology, molecular pharmacology, and neuropharmacology. The NIH fellowship limits eligibility to U.S. citizens or permanent residents. Apply to: Director, Graduate Studies, Department of Pharmacology, MT. SINAI SCHOOL OF MEDICINE, 1 Gustave L. Levy Place, New York, N.Y. 10029.

POSTDOCTORAL FELLOWSHIP available for study of hormonal and metabolic regulation of phosphoprotein phosphatases. Tissue culture work planned. Experience in enzymology and protein chemistry desired. Contact: Dr. R. T. Curnow, Department of Pharmacology and Medicine, Box 419, University of Virginia, Charlottesville, Virginia 22908.

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HEMATOLOGY, POSTDOCTORAL RESEARCH FELLOWSHIPS available beginning July 1981. Diversified research programs with large faculty and strong basic orientation designed for candidates with M.D. and/or Ph.D. degrees who plan an academic career in medicine. Competitive stipends. U.S. citizens and permanent residents. Write to: Adel A. Yunis, M.D., Department of Medicine (R-38), University of Miami School of Medicine, P.O. Box 016960, Miami, Florida 33101.

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POSTDOCTORAL FELLOWSHIP. Available in spring or summer 1981. Research on the biochemistry and genetics of isoleucine-valine biosynthesis in *Escherichia coli* K-12, with particular emphasis on its genetic regulation, and on promoters and terminators detected on cloned DNA segments. Salary at NIH level plus differential for regional living costs. Send curriculum vitae and names of three references to: Dr. David H. Calhoun, Department of Microbiology, Mount Sinai School of Medicine, Fifth Avenue and 100th Street, New York, N.Y. 10029. An Equal Opportunity/Affirmative Action Employer.

PROGRAM

POSTDOCTORAL PROGRAM IN IMMUNOLOGY

The Department of Immunology invites applications from qualified individuals interested in postdoctoral training in immunology. The department involves 20 full-time faculty with active ongoing research programs centering around studies of the biology and chemistry of the acute phase proteins; chemistry and biology of the complement systems; cellular immunology and immunogenetics; mechanisms of inflammation and host defense; immunopharmacology; and the chemistry and biology of the allergic response. The department offers a graduate program leading to a Ph.D. in immunology, with 16 students currently enrolled. Special programs also are available in clinical immunology, since a comprehensive Clinical Immunology Laboratory, an active resident training program in allergy and clinical immunology, and medically oriented investigations are integral components of the department. Please direct inquiries to:

Henry Gewurz, M.D., Chairman
Department of Immunology
Rush-Presbyterian-St. Luke's Medical Center
1753 West Congress Parkway
Chicago, Ill. 60612



We interrupt our program for this brief announcement:

Monoclonal Anti-human Lyt 3, an authentic Pan-T cell antibody, is now available. It reacts with all human T cells (but not with B cells) and recognizes the sheep red blood cell receptor.

Also new: Anti-mouse Lyt 1.2 for helper T cell studies.

Now back to our program. It is going so well that new monoclonal antibodies are being developed faster than we can advertise them. Here is our current list:

HUMAN	MOUSE	MOUSE
Anti-human Lyt 1*	Anti-mouse Thy 1.2	Anti-mouse Lyt 2.2
Anti-human Lyt 2*	Anti-mouse Thy 1.2,	Anti-mouse Lyb 2.1
Anti-human Lyt 3*	biotin labeled	Sheep anti-mouse Ig,
Anti-human Ia	Anti-mouse Thy 1.2,	alkaline phosphatase
	fluorescein labeled	labeled
VIRAL	Anti-mouse Thy 1.1	Anti-mouse Lyb 2.3
Anti-murine	Anti-mouse Lyt 1.2	Anti-mouse TL
leukemia virus gp70	Anti-mouse Lyt 1.1	
Anti-murine	Anti-mouse Lyt 2.1	
leukemia virus p15 (E)		

* Indicates order of clone isolation, not target cell function

And several others are to be announced shortly. So let us put your name on our special mail list for news of the latest additions and send you a comprehensive product line brochure.

Meanwhile, be assured that all of our monoclonal antibody products are made to the highest standards of quality. Our objective is not just the broadest line of products, but the finest as well.

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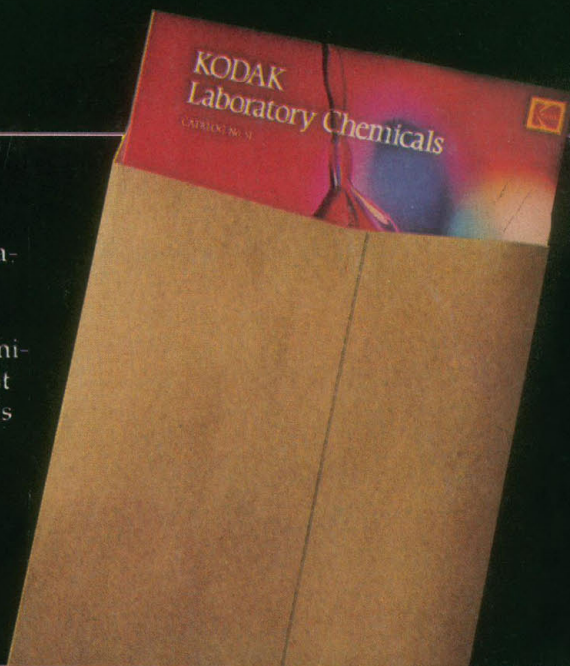
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