

the upper atmosphere. Observations of traveling ionospheric disturbances, recent theories concerning their propagation (ducting), and computer models of their generation and propagation are also described in detail.

Kato's treatment of classical tidal theory is good and includes extensive figures and tabulations of Hough functions and velocity expansion functions. Recent developments in upper atmosphere tidal theory that take into account hydro-magnetic effects, molecular dissipation, and interactions with background winds and meridional temperature gradients are also adequately represented. An extensive presentation and interpretation of incoherent scatter measurements of upper atmosphere tidal oscillations in winds and temperature elucidates these theoretical developments well.

In the final two chapters a general discussion of upper atmosphere electrodynamics treats the motion of charged particles under the influence of electric fields and neutral winds. In addition, the theory and observation of such ionospheric tidal phenomena as the wind shear mechanism for the generation of sporadic E, the vertical motions of the F-region plasma, and the generation of electric fields via the dynamo mechanism are utilized to clarify the physics of neutral-plasma interactions in the upper atmosphere, as well as to report on new research developments concerning these phenomena.

In conclusion, the book will prove extremely useful as a review, source of reference, and instructional aid to a large audience of dynamicists, ionospheric physicists, aeronomers, and graduate students with some basic knowledge of ionospheric physics and dynamics.

JEFFREY M. FORBES

*Department of Physics,
Boston College,
Chestnut Hill, Massachusetts 02167*

Books Received

Advanced Questionnaire Design. Patricia J. Labaw. Abt Books, Cambridge, Mass., 1981. xiv, 184 pp. \$14.

Advances in Electronics and Electron Physics. Vol. 55. L. Marton and C. Marton, Eds. Academic Press, New York, 1981. xii, 404 pp., illus. \$47.50.

Advances in Food-Producing Systems for Arid and Semiarid Lands. Proceedings of a symposium, Kuwait, Feb. 1980. Jamal T. Manassah and Ernest J. Briskey, Eds. Academic Press, New York, 1981. Two volumes. xxxiii, 1274 pp., illus. Each volume, \$55.

Biomedical and Dental Applications of Polymers. Papers from a symposium, Houston, Mar. 1980. Charles G. Gebelein and Frank F. Koblitz, Eds. Plenum, New York, 1981. xii, 492 pp., illus. \$59.50.

Burnout. From Tedium to Personal Growth. Ayala M. Pines and Elliot Aronson with Ditsa Kafry. Free Press (Macmillan), New York, 1981. x, 230 pp. \$17.95.

Cancer Risks by Site. Takeshi Hirayama, John A. H. Waterhouse, and Joseph F. Fraumeni, Jr., Eds. International Union Against Cancer, Geneva, 1980. 218 pp., illus. Paper, Sw.Fr. 20. UICC Technical Report Series, vol. 41.

Care of the Older Adult. Joan Carson Breitling. Tiresias Press, New York, 1981. 336 pp. Paper, \$9.90.

The Distribution of the Human Immunoglobulin Allotypes. Arthur G. Steinberg and Charles E. Cook. Oxford University Press, New York, 1981. xii, 250 pp. \$69.50. Oxford Monographs on Medical Genetics.

Disturbing the Universe. Freeman Dyson. Harper and Row, New York, 1981. xii, 286 pp. Paper, \$4.95. Reprint of the 1979 edition.

Ecological Impact of Acid Precipitation. Proceedings of a conference, Sandejord, Norway, Mar. 1980. D. Drablos and A. Tollan, Eds. SNSF Project, Oslo, 1980. 384 pp., illus. Paper.

An Economic Analysis of World Energy Problems. Richard L. Gordon. MIT Press, Cambridge, Mass., 1981. xx, 282 pp., illus. \$30.

Essentials of Psychology. John P. Houston, Helen Bee, Elaine Hatfield, and David C. Rimm. Academic Press, New York, 1981. xvi, 530 pp. illus. + appendices. Paper, \$14.95.

Estuarine Physics and Chemistry. Studies in Long Island Sound. Barry Saltzman, Ed. Academic Press, New York, 1980. xvi, 424 pp., illus. \$44.50. Advances in Geophysics, vol. 22.

Evolution des Coleopteres Souterrains et Endogés. Papers from a meeting, Moulis, Sept. 1979. Christian Juberthie, Ed. Société Biospéologie Moulis, Saint-Girons, France, 1980. 374 pp., illus. Paper, \$25. Mémoires de Biospéologie, Tome 7.

Fourth International Visual Field Symposium. Bristol, Apr. 1980. E. L. Greve and G. Verriest, Eds. Junk, The Hague, 1981 (U.S. distributor, Kluwer Boston, Hingham, Mass.). x, 406 pp., illus. \$89. Documenta Ophthalmologica Proceedings Series, vol. 26.

Frantz/Malm's Chemistry in the Laboratory. James B. Ifitt and Julian L. Roberts, Jr. Freeman, San Francisco, 1981. xii, 260 pp., illus. Paper, \$8.95. Abridgment and revision of *Essentials of Chemistry in the Laboratory*.

Fundamentals of Experimental Psychology. Paul W. Robinson. Prentice-Hall, Englewood Cliffs, N.J., ed. 2, 1981. xvi, 416 pp., illus. \$19.95.

Genetics and Probability in Animal Breeding Experiments. Earl L. Green. Oxford University Press, New York, 1981. xvi, 272 pp. \$36.95.

How to Solve General Chemistry Problems. C. H. Sorum and R. S. Boikess. Prentice-Hall, Englewood Cliffs, N.J., ed. 6, 1981. x, 326 pp. Paper, \$10.95.

How to Understand Acid-Base. A Quantitative Acid-Base Primer for Biology and Medicine. Peter A. Stewart. Elsevier, New York, 1980. xiv, 186 pp., illus. \$22.95.

Human Ecosystems. W. B. Clapham, Jr. Macmillan, New York, and Collier Macmillan, London, 1981. xii, 420 pp., illus. Paper, \$12.95.

Immunodermatology. Bijan Safai and Robert A. Good, Eds. Plenum, New York, 1981. xlii, 718 pp., illus. \$49.50. Comprehensive Immunology, 7.

Immunology of Skin Diseases. Michael J. Fellner. Elsevier, New York, 1980. xviii, 318 pp. \$29.95.

The Impact of Three Exotic Plant Species on a Potomac Island. Lindsey Kay Thomas, Jr. National Park Service, Washington, D.C., 1980 (available from the Superintendent of Documents, Washington, D.C.). xvi, 180 pp., illus. Paper, \$4.75. National Park Service Scientific Monograph Series, No. 13.

Laboratory Procedures in Clinical Microbiology. John A. Washington, Ed. Springer-Verlag, New York, 1981. xiv, 856 pp., illus. \$34.50.

Language Acquisition and Linguistic Theory. Susan L. Tavakolian, Ed. MIT Press, Cambridge, Mass., 1981. x, 234 pp. \$19.95.

Linguistic Theory and Psychological Reality. Papers from a symposium, Cambridge, Mass., Mar. 1976. Morris Halle, Joan Bresnan, and George A. Miller, Eds. MIT Press, Cambridge, Mass., 1981. xx, 330 pp. Paper, \$7.95. MIT Bicentennial Studies, 3. Reprint of the 1978 edition.

Man-Machine Systems. Information, Control, and Decision Models of Human Performance. Thomas B. Sheridan and William R. Ferrell. MIT Press, Cambridge, Mass., 1981. xiv, 452 pp., illus. Paper, \$12.50. Reprint of the 1974 edition.

The Mathematical Experience. Philip J. Davis and Reuben Hersh. Birkhäuser, Boston, 1981. xxii, 440 pp., illus. \$24.

Nuclear Energy Technology. Theory and Practice of Commercial Nuclear Power. Ronald Allen Knief. Hemisphere, Washington, D.C., and McGraw-Hill, New York, 1981. xvi, 606 pp., illus. \$27.95. McGraw-Hill Series in Nuclear Engineering.

Nutrition and Health. Doris Howes Calloway and Kathleen Oliver Carpenter. Saunders, Philadelphia, 1981. viii, 342 pp., illus. \$17.95.

Odor Quality and Chemical Structure. Papers from

a symposium, Washington, D.C., Sept. 1979. Howard R. Moskowitz and Craig B. Warren, Eds. American Chemical Society, Washington, D.C., 1981. x, 244 pp., illus. \$24.50. ACS Symposium Series, 148.

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Options for the Future. A Comparative Analysis of Policy-Oriented Forecasts. Thomas E. Jones. Praeger, New York, 1980. xxiv, 350 pp. Cloth, \$29.95; paper, \$9.95.

Psychologie du Langage. Jean Costerman. Mardaga, Brussels, 1980. 250 pp., illus. Paper, 490 BF. Psychologie et Sciences Humaines.

Psychology for the Classroom. Janice T. Gibson. Prentice-Hall, Englewood Cliffs, N.J., ed. 2, 1980. xxiv, 568 pp., illus. Paper, \$17.95.

Psychonephrology 1. Psychological Factors in Hemodialysis and Transplantation. Papers from a conference, New York, 1978. Norman B. Levy, Ed. Plenum, New York, 1981. xviii, 288 pp. \$25.

Psychopathology of Children and Youth. A Cross-Cultural Perspective. Papers from a conference, Nov. 1979. Elizabeth F. Prucell, Ed. Josiah Macy, Jr. Foundation, New York, 1980 (distributor, Independent Publishers Group, Port Washington, N.Y.). x, 368 pp. Paper, \$5.

Radar Development in Canada. The Radio Branch of the National Research Council of Canada, 1939-1946. W. E. Knowles Middleton. Wilfrid Laurier University Press, Waterloo, Ontario, Canada, 1981. xii, 148 pp., illus. \$9.75.

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Social and Political Perspectives on Energy Policy. Karen M. Gentemann, Ed. Praeger, New York, 1981. xxxvi, 190 pp. \$23.95.

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Thermodynamics, Statistical Physics, and Kinetics. Yu. B. Rumer and M. Sh. Ryvkin. Translated from the Russian edition (Moscow, 1977) by S. Semynov. Mir, Moscow, 1980 (U.S. distributor, Imported Publications, Chicago). 600 pp. \$12.

Three Thousand Years in Africa. Man and His Environment in the Lake Chad Region of Nigeria. Graham Connah. Cambridge University Press, New York, 1981. xx, 268 pp., illus. \$59.50. New Studies in Archaeology.

Thyroid Cancer. William Duncan, Ed. Springer-Verlag, New York, 1980. x, 144 pp., illus. \$35.40. Recent Results in Cancer Research, 73.

Tissue Fluid Pressure and Composition. Papers from a symposium, La Jolla, Calif., July 1978. Alan R. Hargens, Ed. Williams and Wilkins, Baltimore, 1981. xiv, 276 pp., illus. \$34.

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Toward Rational Technology in Medicine. Considerations for Health Policy. H. David Banta, Clyde J. Behney, and Jane Sisk Willems. Springer, New York, 1981. xiv, 242 pp., illus. \$28.50. Springer Series on Health Care and Society, vol. 5.

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The Trial Process. Bruce Dennis Sales, Ed. Plenum, New York, 1981. xvi, 506 pp. \$39.50. Perspectives in Law and Psychology, vol. 2.

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Wine Production Technology in the United States. Papers from a symposium, Las Vegas, Aug. 1980. Maynard A. Amerine, Ed. American Chemical Society, Washington, D.C., 1981. x, 230 pp., illus. \$30. ACS Symposium Series, 145.

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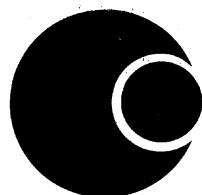
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PROFESSOR OF PLANT PATHOLOGY AND HEAD, Department of Plant Pathology, The Pennsylvania State University, University Park, Pa. The person filling this position is the departmental administrative officer and program leader, and reports directly to the dean of the College of Agriculture. Duties include: (i) academic program leadership in resident instruction, extension, and research; (ii) administrative responsibility for academic affairs, departmental personnel, financial matters, and physical facilities; and (iii) leadership and coordination with regard to departmental relations with the public, including agricultural producers, agricultural industry, government, and other citizens of the Commonwealth of Pennsylvania. Candidates should possess a Ph.D. in plant pathology or closely related field, plus the following attributes: (i) a significant period of professional and academic experience in plant pathology (10 years or more); (ii) experience in the land-grant university system; (iii) experience or in-depth knowledge of university teaching, research, and extension functions; (iv) administrative and program leadership experience or strong evidence of the potential for administrative and program leadership; and (v) experience in working with agricultural producers and industry. At present the faculty consists of 25 full-time persons of professorial rank, 11 adjunct faculty appointments, 1 research associate, and 7 research assistants. Various faculty members have joint appointments with other centers and institutes. There are presently 50 graduate students enrolled in the department. The Department of Plant Pathology is located at Penn State's main campus at University Park, Pa. Student enrollment at University Park is in excess of 30,000 undergraduate and graduate students. The position is available immediately. Applications will be accepted until 21 September 1981, or later if a suitable applicant has not been selected. Persons interested in this position and possessing the necessary qualifications are invited to submit a complete résumé with documentation of teaching, research, extension, administrative, and program leadership experience. Names of five suggested references should be submitted. The salary will be commensurate with the qualifications and experience of the applicant. Apply to: Dr. Herbert Cole, Chairman, Search Committee, 211 Buckhout Laboratory-Box C, The Pennsylvania State University, University Park, Pa. 16802. The Pennsylvania State University is an Affirmative Action/Equal Opportunity Employer.



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Qualifications: Ph.D. or other doctorate. Must possess a proven record of academic and administrative experience, preferably in agriculture and natural resources or a closely related field. Person must have the capabilities and qualities needed to work effectively with staff, students, and diverse groups of clientele from all aspects of agriculture, natural resources, and family life. Individual must have the ability to assess accurately the problems and opportunities of agriculture and natural resources in Nebraska and be responsible, innovative, and persistent in dealing with them. Salary commensurate with qualifications and experience.

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**Dr. Glen J. Vollmar, Chair
Vice Chancellor Search Committee
c/o IANR Vice Chancellor's Office
202 Agricultural Hall
University of Nebraska-Lincoln
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POSITIONS OPEN

Wanted: **Ph.D. IN IMMUNOLOGY**, nonregular appointment of **ASSISTANT PROFESSOR** in Department of Ophthalmology, University of Minnesota, applying principles of immunology to the eye-teaching and research. Interaction with Immunobiology Research Center. One year of postdoctoral experience. Send résumé to: **Richard Lindstrom, M.D., Box 493 Mayo Building, Department of Ophthalmology, University of Minnesota, Minneapolis, Minn. 55455. University of Minnesota is an Equal Opportunity Employer and invites applications from qualified women and minorities.**

ASSISTANT SCIENTIST. Ph.D. degree holding in biochemistry, biophysics, or molecular biology required to conduct research on the isolation of DNA-membrane complexes, characterization and purification of proteins, and restriction enzyme analysis of DNA. Extensive experience in electron microscopy of DNA required as well as postdoctoral training in DNA replication and/or recombination. Full-time, 40 hours per week. Salary: \$22,000 per year. Résumé or letter of application should be sent to: **Sath Menon, Wisconsin Job Service, 206 North Broom Street, Madison, Wisconsin 53703; telephone: 608-266-2341 or 608-266-1492. This ad not paid for by Job Service Funds.**

Teach in the General and Animal Biology Programs. Responsible for audio-tutorial and conventional laboratories, lectures, conducting oral recitations, and helping students in any phase of the program. Assist in the development of evaluation materials and preparation and set-up of laboratories. Qualifications include a master's degree or higher. College teaching experience with individualized instructional techniques are desired. Able to relate biology to agriculture. Salary is commensurate with training and experience. Applications close 14 August 1981. A tenure-track position is available 16 September 1981. A temporary position with appointment period 16 September through 15 December 1981 is also open. A letter of application, academic records, and three letters of reference should be forwarded to: **Dr. James L. Gibson, Assistant Provost, Academic Affairs, University of Minnesota Technical College at Waseca, Waseca, Minn. 56093. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.**

University of Maine, Orono (UMO). **CHEMICAL/RADIATION/LABORATORY SAFETY OFFICER.** Develop and administer laboratory safety program. Ensure establishment and observation of laboratory safety standards and facilitate involvement in safety program. Implement laboratory safety inspection program. Ensure compliance with federal and state regulations related to radioactive, carcinogenic, and molecular (DNA) research at UMO, inform users of regulations and maintain records on location, use, and disposal. Liaison with police and fire officials in event of emergency. Assist in training of laboratory personnel. Qualifications: master's in health physics or public health/safety. Qualified for licensing by NRC. Experience in one safety area desirable. Communicate clearly, verbally and in writing, work effectively with staff and faculty. Prior administrative experience. Salary negotiable. Résumé and names of references to: **Dr. John Coupe, Acting Vice President for Finance and Administration, UMO, Alumni Hall, Orono, Maine 04469. Deadline: 14 August 1981. The University of Maine is an Equal Opportunity/Affirmative Action Employer.**

DEVELOPMENTAL BIOLOGIST. The Department of Biological Sciences at the George Washington University invites applications for the position of assistant professor (tenure-track) to begin January or August 1982. Academic year (10 months) salary: \$16,500 to \$18,000, depending on experience. Applicants must have a Ph.D. and postdoctoral research experience is preferred. The candidate should be prepared to teach undergraduate and graduate courses in vertebrate embryology and developmental biology, and to initiate a strong research program. Responsibilities will include directing graduate and undergraduate research. Applicants should provide curriculum vitae, undergraduate and graduate transcripts, a list of publications, a list of courses the applicant is prepared to teach, a statement of future research plans, and three letters of reference. Applications should be sent to: **Dr. Stefan O. Schif, Chairman, Department of Biological Sciences, The George Washington University, Washington, D.C. 20052. All applications must be completed by 21 September 1981. The George Washington University is an Equal Opportunity/Affirmative Action Employer.**

REMOTE SENSING SCIENTISTS

The U.S. Agency for International Development (A.I.D.) and the Asian Institute of Technology (AIT) are seeking five remote sensing scientists to develop curriculum, conduct research, and teach remote sensing theory and applications courses at the Asian Regional Remote Sensing Center. The Center is colocated with AIT outside of Bangkok, Thailand. In addition to a team leader, remote sensing scientists with experience in the following areas are sought:

1. Geology/Hydrology
2. Photogrammetry/ Cartography
3. Computer Software Systems
4. Vegetation Cover/Land Use Analysis

Team is desired by January 1982. Ph.D. degree and digital image analysis experience required. U.S. citizenship required. The team will be physically located on the AIT campus outside Bangkok. Contracts with individuals envisaged. Salaries negotiable. Excellent fringe benefit package. Two-year contracts. Possibly, several can be renewed. Interested and qualified applicants are urged to contact:

**Dr. Charles K. Paul, Manager,
Remote Sensing Program
Office of Forestry, Environment
and Natural Resources
Bureau for Development Support
Agency for International
Development
Washington, D.C. 20523
Tel. (703) 235-9166, or**

**Dr. James A. Kearns, Director
Regional Computer Center
Asian Institute of Technology
P.O. Box 2754
Bangkok, Thailand
Tel. (Bangkok) 5168415-9.**

NEN

New England Nuclear, a world leader in the field of nuclear medicine, is expanding its facilities to meet the steady increase in customer demand. As a result of this growth, we now have openings at our new Biotechnology Center in Newton, (suburban Boston), Mass.

Immunologist

Requirements for this position include a Ph.D. in biochemistry or organic chemistry with experience in synthesis of biochemicals. Duties involve performing the synthesis, isolation, purification and characterization of the biochemicals and modified proteins required for various aspects of the immunology program.

Molecular Biologist

The ideal candidate will have a Ph.D. in Molecular Biology or Biochemistry and experience in methods of DNA research

associated with immunoglobulin diversity or gene identification. Duties include development of methods of molecular biology which are required for the production of immunoglobulins and their chains in vitro by manipulation of chromosomal DNA.

Group Leader Immunology

This position requires a Ph.D. in Immunology, Cell Biology, or Molecular Biology with two or more years industrial supervisory experience. Experience with cell culture techniques and production of antibodies in-vitro is essential. The primary duty will be to implement and direct the laboratory procedures and programs required for in-vitro antibody production.

Interested candidates should submit a resume with salary history to Erin Moore, New England Nuclear, 601 Treble Cove Road, Billerica, MA 01862



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MAJOR BIOTECHNOLOGY FERMENTATION PROGRAM

Outstanding opportunities are available immediately in a biotechnology program in our Corporate Research Laboratories in St. Louis. A biochemical engineering unit is being established to conduct feasibility and process development studies on exciting leads emerging from exploratory research programs in biocatalysis and molecular biology.

MANAGEMENT ASSIGNMENT: A leader capable of organizing and directing an engineering team engaged in exploratory process research and feasibility demonstrations for novel biotechnology. Requirements include a PhD in chemical or biochemical engineering and a broad background in fermentation and biocatalytic process technology. We prefer 5+ years related industrial experience and an established track record in project initiation and leadership.

RESEARCH ASSIGNMENTS: PhD with broad academic background in biochemical engineering having a strong interest in research directed at novel process innovation. 0-5 years experience.

These positions offer the rare opportunity to participate from the beginning in a highly-visible new program enjoying a major commitment of resources and having the potential for substantial commercial impact within this multinational corporation.

All applicants should have strong academic credentials plus demonstrated ability to achieve significant research results. Monsanto offers an exceptional benefits package, highly competitive salaries, a campus-like research setting, and an exciting, forward-looking research climate. Please send your resume to: Dr. P. R. Schenkenberg, Monsanto Company, G3WD, 800 North Lindbergh Boulevard, St. Louis, Missouri 63166.

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POSITIONS OPEN

CHEMIST

Obstetrics/Gynecology Endocrinology Laboratory

A regional, university-affiliated Perinatal Obstetrics/Gynecology Center, located in New England, seeks a biochemist with special skills in obstetrics and gynecologic endocrine chemistry. This position may include joint appointment to the faculty of the Medical School as instructor or assistant professor. Please include your curriculum vitae with your response. *Both the hospital and the university are Equal Opportunity Employers.* Applications must be received by 21 August 1981. Send to: Dr. Don B. Singer, Department of Pathology, Women & Infants Hospital of Rhode Island, Providence, R.I. 02908.

CHIEF EXECUTIVE OFFICER NEW YORK MEDICAL COLLEGE VALHALLA, NEW YORK

Nominations and applications are invited for the position of chief executive officer. Candidates should have doctorate qualifications and demonstrated administrative achievements. Please send nominations and qualifications (including curriculum vitae) to:

Chairman
Board of Trustees
New York Medical College
Elmwood Hall
Valhalla, New York 10595

New York Medical College is an Equal Opportunity/Affirmative Action Employer.

DEVELOPMENTAL BIOLOGIST

The Department of Embryology of the Carnegie Institution of Washington in Baltimore will appoint one Carnegie Staff Associate each year. The position is an independent research opportunity with a single 3-year term that can be assumed in lieu of or after a postdoctoral fellowship, the only requirement being a Ph.D. or M.D. degree on arrival. We are seeking individuals of unusual ability and independence who wish to change their research direction. A completed application will include curriculum vitae, three letters of recommendation, and a brief research proposal. Apply to: Director, Department of Embryology, Carnegie Institution of Washington, 115 West University Parkway, Baltimore, Maryland 21210.

An Affirmative Action/Equal Opportunity Institution

DRUG METABOLISM

B.S. or M.S., experienced with animal or man, ADME, bioanalytical development (isolation, identification, and quantitation). Stat and pharmacokinetics preferred.

ANALYTICAL R & D

Analytical development of pharmaceuticals; HPLC, GC required; microprocessor and stat desired. B.S. or M.S.

Twenty years of research and management experience in the pharmaceutical industry provides me with a unique capability to assist you in discreetly exploring opportunities to enhance your career. Send your résumé or call with complete assurance of confidentiality. Our clients pay all costs.

Robert S. Joslin, Ph.D.
3264 Sanders Road, Suite D
Northbrook, Ill. 60062
Telephone: 312-298-3635

EXTENSION FORESTER UNIVERSITY OF MASSACHUSETTS

The Department of Forestry and Wildlife Management is seeking candidates to fill this full-time, academic-year, tenure-track appointment at the assistant professor level. First-year summer salary will be provided and support for subsequent summer programs is anticipated, dependent upon client demand and availability of funds. Applicants must hold a Ph.D. in forestry, wood technology, or a related natural resource field. At least one degree must be in forestry. Responsibilities include development and coordination of extension education forestry programs; production of informational literature; coordination of programs involving forestry and wood utilization at the university and statewide; information transfer through individual contacts and mass media; and up to 25 percent of time in teaching or research. Send résumé, transcripts, and three letters of recommendation by 30 September 1981 to: Chairman, Extension Forester Search Committee, Department of Forestry and Wildlife Management, Holdsworth Hall, University of Massachusetts, Amherst, Mass. 01003. *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CLINICAL IMMUNOLOGY LABORATORY DIRECTOR. (Position open immediately.) Children's Hospital of Philadelphia. Laboratory evaluations of cellular and humoral immune function. Experience in medical laboratory immunology and Ph.D. in immunology required. Responsibilities include development and application of new procedures, training, and management. Salary: \$25,000 to \$30,000. Send curriculum vitae and three letters of reference to: Dr. Steven D. Douglas, Director, Allergy-Immunology, Children's Hospital of Philadelphia, 34th and Civic Center Boulevard, Philadelphia, Pa. 19104; telephone: 215-596-9661. *Equal Opportunity/Affirmative Action Employer.*

The Departments of Biochemistry and Pharmacology at The University of Virginia invite applications from qualified persons for a joint tenure-track appointment at the assistant professor level. The individual is expected to sustain a strong and creative research program, preferably in the area of **EUKARYOTIC MOLECULAR BIOLOGY**, and will be required to teach some aspect of biochemistry and/or pharmacology in the Medical School. Please send curriculum vitae, bibliography, and the names of three references to: Dr. Burton Litman, Department of Biochemistry, School of Medicine, University of Virginia, Charlottesville, Va. 22908. Deadline for receipt of applications is 1 October 1981. *The University of Virginia is an Equal Opportunity/Affirmative Action Employer.*

FACULTY FOR INSTITUTE OF BIOLOGICAL CHEMISTRY

An outstanding scientist is being sought to fill a permanent faculty position in the Institute. This person will be expected to conduct a vigorous research program in biological chemistry relevant to agriculture and participate in graduate training. Salary and rank are open to negotiation. Review begins 1 September 1981.

Send nominations and applications, including curriculum vitae, a short description of research goals, and a list of three or more references, to: P. E. Kolattukudy, Director, Institute of Biological Chemistry, Washington State University, Pullman, Washington 99164.

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

GEOLOGIST—The Department of Geology at Wayne State University invites application for a tenure-track faculty position to be filled by September 1981. Ph.D. essential. Specialists in the fields of igneous petrology and especially metamorphic petrology desirable but other fields and specialties will be considered. Candidates must have a strong commitment to excellence in both the undergraduate and graduate level. Field course participation is possible. Applicants should forward a résumé to: R. B. Furlong, Chairman, Department of Geology, Wayne State University, Detroit, Mich. 48202. *An Affirmative Action/Equal Opportunity Employer.*

IMMUNOLOGIST—CELL BIOLOGIST

The Department of Bacteriology and Immunology, University of North Carolina School of Medicine, Chapel Hill, seeks assistant or associate professor level, tenure-track faculty in immunology. Interests in the molecular biology of cellular immunity or the genetics of immune responsiveness helpful. We seek persons of demonstrated research productivity. Position(s) available immediately. *Applications particularly invited from women and minorities; an Affirmative Action/Equal Opportunity Employer.* Reply with curriculum vitae and names of references to: P. Frederick Sparling, M.D., 804 Faculty Laboratory Office Building, Chapel Hill, N.C. 27514.

University of Michigan Medical School, Department of Pathology, has two openings for M.D. **IMMUNOLOGISTS** or **IMMUNOPATHOLOGISTS** at the assistant professor/professor level.

These individuals should have a proven and funded research record with experience in monoclonal antibody hybridoma and the application of monoclonal antibodies to surgical pathology material. They should have a proven record of research accomplishments, including externally funded research programs. Direct inquiries to: Peter A. Ward, M.D., Professor and Chairman, Department of Pathology, University of Michigan Medical School, M5240 Medical Science I Building, Box 045, 1335 East Catherine Street, Ann Arbor, Mich. 48109. *A nondiscriminatory, Affirmative Action Employer.* Code 64HO, 65HO.

POSITIONS OPEN

MARINE CHEMIST/CHEMICAL OCEANOGRAPHER. Assistant professor, tenure-track appointment at 4-year undergraduate campus beginning August 1981 or January 1982. Applicant should hold earned Ph.D. in marine chemistry or oceanography and will be expected to teach lectures and laboratories in marine chemistry, introductory marine science, and general chemistry and to develop advanced courses in marine/environmental/geochemistry. Send résumé with names of three references to: Dr. R. H. Moore, Dean, School of Sciences, Coastal Carolina College, University of South Carolina, Conway, S.C. 29526. *An Equal Opportunity/Affirmative Action Employer.*

MARKETING MANAGEMENT IN BIOTECHNOLOGY

BRL Molecular Diagnostics, a division of Bethesda Research Laboratories, is a pioneer and industry leader in Biotechnology and its application to the Clinical Diagnostics market.

The following positions offer a challenging opportunity to those capable of flexibility and innovation in identifying opportunities and communicating new areas of technology.

Marketing and Product Management - -

Clinical Immunology and Hybridoma. Responsible for new product planning and introduction. These are key positions requiring skills in interacting with Sales, R & D, Production, Finance and Communications. Strong background in biological science required.

Technical Service Management - -

Technical liaison between laboratories, customers and sales. Produce newsletters, catalogues and product literature for clinical immunology and hybridoma products. Applicant Ph.D. preferred.

Resumes may be sent, in confidence, to:

J. Wamstad
**BETHESDA RESEARCH
LABORATORIES**
Box 577, 8717 Grovemont Circle
Gaithersburg, Md. 20760
(A suburb of Washington, D.C.)

IBRL

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MICROBIOLOGY LABORATORY TEACHING POSITION, nontenure track, to develop, support, and present laboratories in microbial genetics, virology, immunology, and bacteriology to medical and graduate students. Doctorate required. Send letter describing background, experience, and interests, curriculum vitae, and list of three referees to: Department of Microbiology, School of Medicine, East Carolina University, Greenville, N.C. 27834. Closing date: 1 September 1981. *An Equal Opportunity/Affirmative Action Employer.*

The School of Marine Sciences in Guaymas, Mexico, will have available two full-time faculty positions, one in **OCEANOGRAPHY** and the other in **FISHERIES** and/or **AQUICULTURE**, beginning January 1982. The successful candidates will teach courses at both graduate and undergraduate levels and carry out research. Ability to teach in Spanish is a must. Salary commensurate with experience and degree. Send résumé, transcripts, and at least three letters of reference to: Dr. Fernando A. Manrique, School of Marine Sciences, P.O. Box 484, Guaymas, Sonora, Mexico.

DIRECTOR CENTER FOR ASTROPHYSICS

The Smithsonian Institution and Harvard University invite applications or nominations for the directorship of the Center for Astrophysics, a scientific collaboration between the Smithsonian Astrophysical Observatory (SAO) and the Harvard College Observatory (HCO) in Cambridge, Massachusetts. The incumbent will serve jointly as director of SAO and director of HCO. It is expected that this person will receive a federal excepted appointment with the Smithsonian Institution, and that he or she will also be appointed to a tenured position as a professor of astronomy at Harvard University. Duties must be assumed by July 1983, and preferably sooner.

The Center for Astrophysics conducts a broad program of research, including x-ray, optical, infrared, and radio astronomy; solar physics; earth and planetary science; atomic and molecular physics; and theoretical astrophysics. A summary of this program, together with details of the observational and support facilities, may be obtained from the address given below.

Candidates will be evaluated primarily on their research achievements in astronomy or some related field; breadth of scientific understanding; intellectual leadership and vision; and talent for management and administration. Applications should contain the following: a résumé describing scientific and administrative experience, a list of publications, and names of three persons who may be contacted for references. Any supplementary statement of goals or conditions would also be welcome. Applications or nominations should be submitted by 1 October 1981 to:

Dr. Alar Toomre, Chairman
Search Committee
Center for Astrophysics
60 Garden Street
Cambridge, Mass. 02138

The Smithsonian Institution and Harvard University are Equal Opportunity/Affirmative Action Employers. Applications from women and minority groups are encouraged. All candidates will be evaluated in accordance with the established procedures of the two institutions. The person selected for this position will be required to file a confidential statement of employment and financial interests with the Smithsonian Institution.

MOLECULAR GENETICS Ph.D.'s

THE INTERNATIONAL PLANT RESEARCH INSTITUTE (IPRI) invites applicants for its rapidly expanding programs in advanced molecular genetics. Applicants with significant records of frontier achievements are invited to join a strong team of innovative scientific leaders in the pleasant San Francisco area.

Send résumé with recent publications to:

DIVISION OF MOLECULAR GENETICS, IPRI, 853 Industrial Road, San Carlos, Calif. 94070.

Equal Opportunity Employer, M/F

State-of-the-art opportunities in the scenic Pacific Northwest. Rockwell Hanford Operations.

The Department of Energy's Hanford facility, managed by Rockwell International, is the first, and one of the largest, nuclear fuels reprocessing complexes in the world. Join us as we investigate the possibility of storing nuclear waste packages in basalt repositories.

Soil Physicist/Engineer

Design and conduct experiments to evaluate the performance of compacted soil and rock materials in basalt nuclear waste repositories. Must address the physical and mechanical processes involved in these materials such as unsaturated flow, thermal conductivity, and response to loading pressure.

Geochemist/Geologist/Chemist

Perform geochemical modeling of the changes in the near-field environment caused by placement of nuclear packages. Must be able to develop computer models to describe the precipitation and sorption of waste components within the waste package and near-field of the repository. A strong background in thermodynamics and engineering math is necessary.

Rockwell's generous salary and benefit package includes liberal relocation reimbursement, company-paid life, medical, dental, and accident insurance, and more. For confidential consideration, please send a detailed resume to:

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POSITIONS OPEN

NUCLEAR MAGNETIC RESONANCE PHYSICIST

Research position available in Biophysics Research Laboratory of Medical School for NMR physicist. Job includes development of NMR imaging techniques including mathematical aspects of image processing, theoretical and practical design of shim coils, and modification and maintenance of high field spectrometer. Requirements: Ph.D. in physics, M.S.E.E. or equivalent, at least 5 years of experience in high field RF electronic design, RF technology, digital and analog design, and signal processing as well as skill in advanced machine language programming and knowledge of computer architecture. Salary range: \$30,000 to \$40,000, depending on experience. Send résumé to: Mary Nelson, Boston Placement Office, Hurley Building, Boston, Mass. 02114, and quote job reference number 1351.

PATHOLOGIST/EXPERIMENTAL. Background and/or interest in developing expertise in evaluation of tissues for minerals and ions using modern analytical techniques. Record of research accomplishment necessary. Capable of developing grant-supported research program. *Women and members of minority groups are encouraged to apply.* Please forward curriculum vitae to: John E. Craighead, M.D., Chairman, Department of Pathology, University of Vermont, Burlington, Vt. 05405.

PHARMACOLOGISTS. Assistant professor. We have immediate openings for **THREE SENIOR ASSISTANT PROFESSORS** with training and experience in neuropharmacology, cardiovascular pharmacology, or toxicology. Applicants should have an M.D. or Ph.D. degree and a strong commitment to teaching. Preference may be given to those with active research grants and those who are acquainted with computers. Successful candidates will be expected to develop an independent research program and participate in all teaching activities (medical and graduate students) of the department. Send curriculum vitae and three letters of recommendation to:

Dr. Ruben Bunag
Department of Pharmacology
University of Kansas Medical Center
Kansas City, Kansas 66103

POLAR OCEANOGRAPHER/ SEA ICE DYNAMICIST

A position is available under the Intergovernmental Personnel Act of 1970 for persons now employed in state/local government or in colleges and universities. This position is located within the Oceanic Processes Branch of the Environmental Observation Division of the Office of Space and Terrestrial Applications, NASA Headquarters. The position is for 1 year, with the possibility for renewal for an additional year. Pay will be at a level commensurate with experience and will be established after a review of qualifications.

Candidates must have been employed by the university in a permanent position for at least 90 days or be a career employee of a state or local government. Candidates must also meet the federal qualification standards for the position. These are as follows: a degree in an appropriate field of science, plus 3 years of progressively responsible experience in duties related to the position.

This individual will be responsible for planning, developing, and implementing a scientific research program in satellite remote sensing of oceanic processes in polar regions. A background in polar oceanography, sea ice dynamics, or a closely related field is required; experience in remote sensing, although desirable, is not essential. A Ph.D. or equivalent training and experience is mandatory.

Interested parties should send a current résumé to: NASA Headquarters, attention: Catherine Zegowitz, Code EPM-3, Washington, D.C. 20546.

Selection for this position will be made from otherwise eligible candidates without discrimination for any nonmerit reason such as race, color, religion, sex, national origin, politics, marital status, physical handicap, age, membership or nonmembership in an employee organization, or personal favoritism.

POSTDOCTORAL POSITION to work on experimental *Salmonella* infection and Legionnaires disease. Applicant should have a strong background in either preparation of bacterial antigens, cellular immunology, or phagocytosis methodology. Reply to: T. J. Eisenstein, Temple University School of Medicine, Department of Microbiology and Immunology, 3400 North Broad Street, Philadelphia, Pa. 19140. An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION available for a person with training in biochemistry, cell biology, or molecular biology. Position is for the study of the role of mammary epithelial cellular endomembranes in the synthesis, postsynthetic modification, and secretion of the constituents of milk. Applicants with experience in in vitro translation are particularly welcomed. Please submit curriculum vitae and three letters of recommendation to: Dr. T. W. Kennan, Department of Animal Sciences, Purdue University, West Lafayette, Ind. 47907. *Purdue University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS—BIOPHYSICS

Techniques of research include laser light scattering and fluorescence photobleaching recovery with applications in the fields of cell motility, the electrical charge properties of biological membranes, and the dynamic/electrokinetic properties of nucleic acids. Candidates with backgrounds in either physical or biological sciences are welcome to apply. Applications should be addressed to: Professor B. R. Ware, Department of Chemistry, Syracuse University, Syracuse, N.Y. 13210.

Scripps Institution of Oceanography invites applications for **THREE TO FIVE POSTDOCTORAL POSITIONS** distributed among the following fields:

- 1) Inshore processes/coastal engineering.
- 2) Marine pollution and the assimilative capacity of the ocean for social wastes, utilizing resonance ionization spectroscopic analytical methods.
- 3) Climate research, including long-range weather forecasting and impacts of increased atmospheric carbon dioxide.

Private foundation funding limits awards to U.S. citizens. Appointments are for 1 or 2 years. Applicant should have a background in appropriate physical sciences for work in one of these fields at the Ph.D. level or equivalent. Appointments in the University of California system will be at the level of postgraduate research or assistant research. Salary from \$17,112 to \$28,400, commensurate with qualifications. Submit résumé (specify position/field), including names of references, before 18 September 1981 to: J. D. Frautschy, Deputy Director, A-010, Scripps Institution of Oceanography, University of California at San Diego, La Jolla, Calif. 92093. Request position profiles at the same address. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION—IMMUNOLOGY Available immediately for studies of in vitro immunological functions of alveolar macrophages in animal model and human systems. Recent Ph.D. with experience in cellular immunology and/or macrophages required; biochemical background desirable. Send curriculum vitae and names of three references to: Dr. H. B. Herscovitz, Department of Microbiology, Georgetown University Medical Center, Washington, D.C. 20007. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study the regulation of the expression of genes associated with cell division in *E. coli*. A strong background in molecular biology (bacterial genetics, recombinant DNA technology) is desirable. Send curriculum vitae and three letters of reference to:

Dr. Joseph Lutkenhaus
Department of Microbiology
University of Kansas Medical Center
39th and Rainbow Boulevard
Kansas City, Kansas 66103

Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION: \$17,000 annually. Available immediately. To partition and quantify belowground CO₂ fluxes in pine forests. Experience with IRGA, data analysis, simulation desirable. Renewal probable for second year. Send curriculum vitae and names of three references to: Dr. K. C. Ewel, School of Forest Resources and Conservation, University of Florida, Gainesville, Florida 32611.

POSTDOCTORAL POSITION for qualified candidate with a Ph.D. in biology or biochemistry in experimental pathology and biochemistry. Available immediately for 2 years. Areas of expertise: enzymology (catabolism) of extracellular matrices and protein purification. Salary: \$16,000 to \$18,000. Send curriculum vitae and references to: Bendicht U. Pauli, Director of Research Laboratories, Department of Pathology, Rush Medical College, Chicago, Illinois 60612. All applications must be received by 1 September 1981.

Rush is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to study hormonal regulation of glycogen metabolism in liver and heart with particular emphasis on the molecular basis for enzymatic defects associated with the diabetic state. Applicants should have a recent Ph.D. or M.D. with background in biochemistry or cellular physiology. Preference will be given to the individual with experience in enzymology and protein purification. Send résumé and names of three references to: Dr. Thomas B. Miller, Jr., Department of Biochemistry, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, Mass. 01605. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITIONS. Ph.D. in biochemistry or microbiology. Experience with protein purification and/or cell biology (immunobiology would be very helpful). To study factors which regulate hemopoiesis in a virus-induced leukemia. *Affirmative Action/Equal Opportunity Employer.* Send résumé to:

Box 190, SCIENCE

POSTDOCTORAL POSITION available immediately. Biochemical and biophysical studies of visual transduction, emphasizing factors controlling membrane protein conformation changes and the functional expression of such changes. Experimental approaches include flash photolysis, circular dichroism, fluorescence depolarization, NMR, membrane reconstitution, and measurements of light-activated enzyme processes. Send curriculum vitae and three letters of recommendation to: Dr. Burton J. Litman, Department of Biochemistry, School of Medicine, University of Virginia, Charlottesville, Va. 22908. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS

NIH-funded postdoctoral positions available for U.S. citizens or permanent residents for 1981–1982. Areas of study include the molecular control of expression of tumor marker genes in neoplastic and fetal cells, the molecular basis of immunodeficiency diseases, and purine metabolism in human leukemic cells. Please send curriculum vitae to either: Dr. Donald M. Miller or Dr. Beverly S. Mitchell, Simpson Memorial Institute, 102 Observatory, University of Michigan, Ann Arbor, Michigan 48109.

A nondiscriminatory, Affirmative Action Employer

POSTDOCTORAL POSITION available for work on a project involving the biochemical mechanism of glucocorticosteroid inhibition of neoplastic cell growth. Emphasis on carbohydrate metabolism. Experience in enzyme assays, radioactive tracer studies, and tissue culture preferred. Available immediately. Send curriculum vitae and names, addresses, and telephone numbers of three references to: Dr. Delano V. Young, Department of Chemistry, Boston University, 685 Commonwealth Avenue, Boston, Mass. 02215. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available from now to January 1982 for study of the neural control of prolactin secretion. Background in neuroendocrinology, neuroanatomy, and/or neurochemistry necessary. Starting salary is \$15,000 for this 2- to 3-year position. Send curriculum vitae and direct three letters of recommendation to: Dr. Michael Selmanoff, Department of Physiology, University of Maryland, School of Medicine, 660 West Redwood Street, Baltimore, Maryland 21201.

POSTDOCTORAL RESEARCH ASSOCIATE position in **PLANT MOLECULAR BIOLOGY.** To study the structure, function, and evolution of plant organelle genomes through molecular analyses. Optional opportunity to learn plant tissue culture techniques. Background in microbiology, biochemistry, or genetics preferred. Previous experience with plants or recombinant DNA not required, although desirable. Send curriculum vitae and three letters of reference to: Dr. Maureen Hanson, University of Virginia, Department of Biology, Charlottesville, Virginia 22901.

RESEARCH ASSOCIATE

Seeking: Ph.D. in enzymology/membrane biology. Research will entail studies on the enzymes regulating endogenous oxalate production and/or the uptake of oxalate by intestinal brush border membranes. Salary: \$15,000 to \$20,000 per year. Three-year appointment with the possibility of continuing as faculty. Send curriculum vitae and letters of reference to: Dr. Mani Menon, Division of Urology, Washington University Medical Center, St. Louis, Mo. 63110. An Equal Opportunity/Affirmative Action Employer.

RESEARCH SCIENTIST

Bristol Laboratories, an acknowledged leader in the pharmaceutical industry, has a rewarding opportunity immediately available in its Drug Metabolism and Pharmacokinetics Department.

Responsibilities will include developing drug assays in biological fluids; as well as conducting metabolic studies in animals involving surgical techniques, dosing, collecting and analyzing of biological samples.

To qualify, you'll need a BS or MS Degree in Chemistry, Biochemistry, Pharmaceutical or related Science; plus 3-5 years experience in HPLC and GLC. Working knowledge of radiolabeled compounds, liquid scintillation and spectrometry would be an asset.

We offer an excellent salary, comprehensive benefits including relocation assistance to our upstate New York headquarters, a professional laboratory environment and every opportunity for professional achievement. For prompt, confidential consideration, forward your resume, including salary history and requirements, to: EMPLOYMENT RECRUITER

BRISTOL LABORATORIES

Division of Bristol-Myers Company
P.O. Box 657, Syracuse, New York 13201
An equal opportunity employer M/F

ZOOLOGICAL INSTITUTE UNIVERSITY OF BASEL SWITZERLAND

ASSISTANT IN NEUROBIOLOGY, starting 1 October 1981, or as soon as possible thereafter. Qualifications: doctorate, research interest in cellular neurophysiology (for example, synaptic modulation, ionic currents, and so forth) of direct relevance to information processing in the CNS, experience with intracellular recording from invertebrate preparations, and ability to teach in German. Main duties: senior undergraduate course with practical laboratory in neurophysiology-cellular processes. Appointment initially for 3 years, extendable to 5 years. Salary (75 percent): approximately SFr.50,000. Applications to:

Professor H. Rowell
Zoologisches Institut
Rheinsprung 9
CH-4051 Basel
Switzerland

MICROBIOLOGY GROUP LEADER New Drug Development

Ortho Pharmaceutical Corporation, a Johnson & Johnson Company, has an opportunity available for an individual interested in joining a progressive, expanding work development team.

Successful candidate will possess a PhD in microbiology and a minimum of 3 years academic work preferably industrial microbiology experience.

Position includes managing a group responsible for screening, acquisition evaluation and new drug dosage form development in the area of antimicrobial, antitubercular and antibacterial drug action. Heavy interface with biological research and pharmaceutical development involved.

Ortho is located in central New Jersey and offers a competitive salary and benefits package coupled with realistic opportunities for advancement.

Please forward resume with salary history in confidence to: R. T. Elliott, Group Manager-Selection, Dept. R-3.

**Ortho
Pharmaceutical
Corporation**

A Johnson & Johnson Company
Route 202, Raritan, New Jersey 08869



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DRUG REGULATORY AFFAIRS

**Mead Johnson
Pharmaceutical Division**

As a Senior Research Associate, you will be an essential member of the product development or project groups with the responsibility for the preparation and submission of regulatory documents and negotiations with the FDA.

If you have a chemical or biological PhD., or equivalent scientific maturity, and at least five years experience including three years work with drug NDA's and IND's and are articulate, able to pull data from various sources into a comprehensive report, and negotiate favorable results, this could be the right move for you.

We offer a comfortable, growth oriented work environment, liberal starting salary and benefits, moving allowances, and a very pleasant midwestern community offering opportunities for a complete well-rounded life. Please send resume including salary history to:

Manager,
Executive Search & Placement
Department 33
Mead Johnson & Company
A Subsidiary of Bristol-Myers
2404 Pennsylvania Avenue
Evansville, IN 47721

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**Mead Johnson
& COMPANY**



POSITIONS OPEN

POSTDOCTORAL-RESEARCH ASSOCIATE POSITION for biochemist-cell biologist available 1 September for 2 to 3 years, to identify, isolate, and characterize insulin-like growth factor and α -thrombin receptors [*J. Biol. Chem.* 256, 2767 (1981)] from cultured cells and tissues.

Experience in membrane protein chemistry, monoclonal antibody production, and/or ligand receptor characterization is desirable but not essential; \$15,000 to \$20,000, yearly depending on qualifications.

Send curriculum vitae and names of three references to: **Dr. James F. Perdue, Lady Davis Institute for Medical Research-Sir Mortimer B. Davis-Jewish General Hospital, 3755 Cote St. Catherine Road, Montreal, Quebec, Canada H3T 1E2.**

POSTDOCTORAL RESEARCH ASSOCIATE POSITION available immediately for candidate with a demonstrated interest and technological expertise in developmental and molecular biology. Experience in hematopoietic stem cell growth in vitro desirable. Excellent research opportunity in the area of the regulation of hemoglobin synthesis in man and baboon model systems. Salary negotiable and competitive. Candidate would be employee of the University of Illinois. Career possibilities. Send curriculum vitae and names of three references to: **Dr. Joseph DeSimone, Hematology Research Laboratory, Veterans Administration West Side Medical Center, 820 South Damen Avenue, Chicago, Illinois 60612. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE IN NEUROPSYCHOPHARMACOLOGY—A 1- to 2-year position is presently available to study the actions of opiates on behavior and CNS function. A recent Ph.D. in pharmacology or physiological psychology with thesis work related to this project is required. Techniques to be used include receptor-binding assays, HPLC analysis of catecholamines, and intracranial self-stimulation. Send curriculum vitae, representative abstracts or papers, and names of three references to: **Dr. Kristin R. Carlson, Department of Pharmacology, University of Massachusetts Medical School, Worcester, Mass. 01605. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available January 1982 for research on the behavioral pharmacology of opiates. Applicants should have recent doctorate in pharmacology or other basic medical science or in experimental psychology. Send résumé with names of three references by 15 September 1981 to:

**Dr. Stephen G. Holtzman
Department of Pharmacology
Emory University School of Medicine
Atlanta, Georgia 30322**

Emory University does not discriminate on the basis of race, color, religion, sex, national origin, handicap, age, or veteran status.

POSTDOCTORAL RESEARCH POSITION. Opportunity to participate in investigative program in tumor immunology and cell kinetics of multiple myeloma. Background in immunobiology and cell culture would be preferable. Interested candidates should forward curriculum vitae and names of three references to: **Robert A. Kyle, M.D., Mayo Clinic, Rochester, Minn. 55901.**

An Equal Opportunity/Affirmative Action Institution

RESEARCH ASSOCIATE POSITION. Research into the mechanisms of anesthesia. Must have Ph.D. in physical chemistry, biochemistry, pharmacology, neurophysiology, or equivalent. Experience in spectrofluorometry, chromatography, and membrane physiology/pharmacology is desirable. Starting salary range: \$17,280 to \$21,600, plus benefits. Position open fall 1981. Send curriculum vitae with references to: **Dr. Edmond Eger, Department of Anesthesia, Room 1386 HSE, University of California, San Francisco, Calif. 94143. Minorities, women, and handicapped persons are encouraged to apply. An Equal Opportunity/Affirmative Action Employer.**

SCIENCE WRITER. To prepare explanatory copy for museum exhibits in physical and life sciences, technology, and health. Copy must be accurate, interesting, and easily understood by the general public. Degree or solid background in sciences, training and experience in science writing, and research skills desired. Send résumé, writing samples, and names of three references to: **Dr. David A. Ucko, Science Director, Museum of Science and Industry, 57th Street and Lake Shore Drive, Chicago, Ill. 60637. Equal Opportunity Employer.**

POSITIONS OPEN

RESEARCH ASSOCIATE position in nutrition available immediately for Ph.D. biochemist/nutritional biochemist with experience in vitamin A research, HPLC, mass spectrometry, cell culture. Send curriculum vitae and a list of three references to: **Dr. Maija H. Zile, Department of Food Science and Human Nutrition, 236 Food Science Building, Michigan State University, East Lansing, Michigan 48824.**

Michigan State University is an Affirmative Action/Equal Opportunity Institution.

RESEARCH ASSOCIATE

Position available immediately for Ph.D. to work on biochemical and physiological mechanisms in the crystalline lens in relation to cataract development. Experience in membrane or protein biochemistry would be most advantageous. Send curriculum vitae and names of two references to: **Dr. C. A. Paterson, Box B 205, University of Colorado Health Sciences Center, 4200 East 9 Avenue, Denver, Colorado 80262. The University of Colorado is an Equal Opportunity Employer.**

SOCIOLOGY/SCIENCE IN SOCIETY

The Sociology Department and the Science in Society Program of Wesleyan University are seeking qualified applicants for a joint appointment to begin on 1 July 1982. Applications at all levels will be considered with preference given to a senior person. We are seeking an experienced sociologist with a demonstrated record of success in research and undergraduate teaching, with a specialty in the sociology of science, and also with broader interests in sociology. The applicant will be expected to teach both in the department and the program, to direct active research in the sociology of science and to involve students in that work, and to offer courses both in that specialty and in other areas of general sociology. The candidate is expected to help in the development of the program and the department. Submit curriculum vitae and have at least three letters of reference sent directly to: **Dr. Herbert Hyman, Sociology Department, or Dr. Earl D. Hanson, Science in Society Program, Wesleyan University, Middletown, Conn. 06457. Applications received after 15 October 1981 may not be considered.**

An Equal Opportunity/Affirmative Action Employer

SYSTEMATIC ENTOMOLOGIST. Applications are invited for an assistant curator in the Division of Insects, Field Museum of Natural History; 12-month, career-track, full-time appointment, with both research and curatorial responsibilities, to begin spring 1982. Applicants must have Ph.D. with primary interest in, and commitment to, an active research program in systematic entomology and the curation of a major entomological collection. Other duties may include participation in exhibition and education functions of Field Museum. Opportunities exist for work with graduate students.

Salary and level of appointment dependent on qualifications and experience.

Send curriculum vitae, description of research experience, future plans, reprints of publications, and letters from three referees by 1 November 1981, to: **Hymen Marx, Chairman, Search Committee, Department of Zoology, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605.**

An Equal Opportunity Employer

SYSTEMS ANALYST—A 2-year position open now for an ecologist (Ph.D.) trained in mathematical modeling. Will assist a limnology group integrate time-series data into computer simulations and statistical submodels. Thorough knowledge of computer programming is required. Send curriculum vitae, selected reprints, and references to: **Dr. Jack A. Stanford, Director, University of Montana Biological Station, Bigfork, Montana 59911. Equal Opportunity/Affirmative Action Employer.**

SYMPOSIUM

VIDEO VIEWING AND VISION OF WORKERS

Will be held in Washington, D.C.
20 and 21 August 1981

For further information, contact: **Dr. Key Dismukes, Study Director, National Academy of Sciences-National Research Council Committee on Vision, 2101 Constitution Avenue, NW, Washington, D.C. 20418. Telephone: 202-389-6068.**

TRAINING PROGRAMS

PREDOCTORAL AND POSTDOCTORAL TRAINING IN EXPERIMENTAL NUTRITION

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

The significance of the gastrointestinal response to undigested food residues.

Research training will be for 1 to 2 years and will be supplemented with lectures by faculty and invited speakers. Trainees must be citizens or noncitizen nationals of the United States or be permanent residents and have earned a Ph.D. or M.D. degree. Grants for predoctoral training in the department are also available. To apply or obtain more information write: **Dr. K. J. Carpenter, Department of Nutritional Sciences, University of California, Berkeley, Calif. 94720, or telephone: 415-642-5202.**

An Affirmative Action/Equal Opportunity Educator and Employer

PRE- AND POSTDOCTORAL TRAINING IN TOXICOLOGY candidates are invited to apply for study in the following areas: immunological, behavioral, neurochemical, reproductive, in vitro, and analytical toxicology. This multidisciplinary training program is being sponsored by the NIEHS. Participating departments include Microbiology, Pathology, and Pharmacology at the Medical College of Virginia (MCV). All correspondence should be directed to:

**Dr. Albert E. Munson
Department of Pharmacology
Medical College of Virginia/VCU
Box 613, MCV Station
Richmond, Virginia 23298**

MCV is an Equal Opportunity/Affirmative Action Employer.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP. Two-year postdoctoral fellowship for research training in developmental biology related to visual system. Work related to basic mechanisms in normal and abnormal retinal development. Supported by NIH training grant. Send curriculum vitae to: **Moshe Lahav, M.D., Department of Ophthalmology, Tufts-New England Medical Center, 171 Harrison Avenue, Boston, Mass. 02111. An Affirmative Action/Equal Opportunity Employer.**

METABOLIC DISEASES FELLOWSHIP—Two-year fellowship opening September 1981. Outstanding opportunity for clinical training in preventive cardiology and human nutrition. Must be ABIM-eligible and U.S. citizen or permanent resident. Curriculum vitae and inquiries to: **Dr. Howard A. Eder, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York 10461. An Equal Opportunity Employer.**

TRAINEESHIPS

MOLECULAR AND CELL BIOLOGY

POSTDOCTORAL RESEARCH TRAINEESHIPS are offered in a multidisciplinary research institute. (i) **Biochemistry:** structure and functions of biological membranes; biological regulation mechanisms with emphasis on hormonal action; receptor functions and cellular messengers; and control of normal and neoplastic growth (W. Y. Cheung, M. Morrison, and G. Schobbaum); (ii) **Immunology:** regulation of antibody formation; macrophage functional heterogeneity and characterization of macrophage receptor functions and structures (F. L. Adler, M. Fishman, and W. S. Walker); (iii) **Pharmacology:** human and animal cancer chemotherapy; drug-induced changes in DNA replication and repair synthesis; genetic, biochemical, and physiological approaches to analysis of mechanisms of drug resistance in human cells (T. P. Brent, A. Fridland, and A. Welch); and (iv) **Virology:** molecular biology and epidemiology of viruses; eukaryotic gene expression and regulation (A. Granoff, D. Kingsbury, and R. G. Webster). Applicants must be citizens or permanent residents of the United States. Please send curriculum vitae, names of three references, and a brief statement of career objectives to: **Dr. M. Fishman, Division of Immunology, St. Jude Children's Research Hospital, 332 North Lauderdale, P.O. Box 318, Memphis, Tenn. 38101.**

Science

REMOTE SENSING SCIENTIST

Experienced Remote Sensing Project scientist required for U.S. Agency for International Development (A.I.D.) project in Dacca, Bangladesh to work with Bangladesh Space Research and Remote Sensing Organization (SPARRSO) in setting up an advanced meteorological ground station, data collection platforms, and digital processing of Metsat and Landsat data. Successful applicant will be responsible for training and applications using remotely sensed data in agriculture, meteorology, water development, forestry, and fisheries. Hardware installation and maintenance support will be provided by the National Oceanic and Atmospheric Administration (NOAA). Senior-level position, salary negotiable, two-year personal services contract preferred. Excellent benefits package. Interested and qualified applicants are urged to immediately contact:

**Dr. Charles K. Paul, Manager,
Remote Sensing Program
Office of Forestry,
Environment and Natural
Resources
Bureau for Development
Support
Agency for International
Development
Washington, D.C. 20523
Tel. (703) 235-9166.**

BIOCATALYSIS

Corporate Research & Development has outstanding opportunities for independent investigators in a new program in biocatalysis research. Applicants may have 0-7 years experience.

MICROBIAL PHYSIOLOGIST

PHD IN MICROBIOLOGY, BIOCHEMISTRY OR BIOLOGY: for research in microbial physiology. Experience in isolation and identification of microorganisms, elucidation of biochemical pathways, mutant selection and fermentation is necessary. Applicants must be interested in and capable of collaborating with enzymologists, biochemical engineers and commercial development personnel.

Applicants should have strong academic records plus a record of creative, significant research achievements.

Send resume to: Mr. P. W. Morrow, Manager, Personnel, Corporate R & D, Monsanto Company, 800 North Lindbergh Boulevard, St. Louis, Missouri 63166.

Monsanto

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Director of Technical Liaison

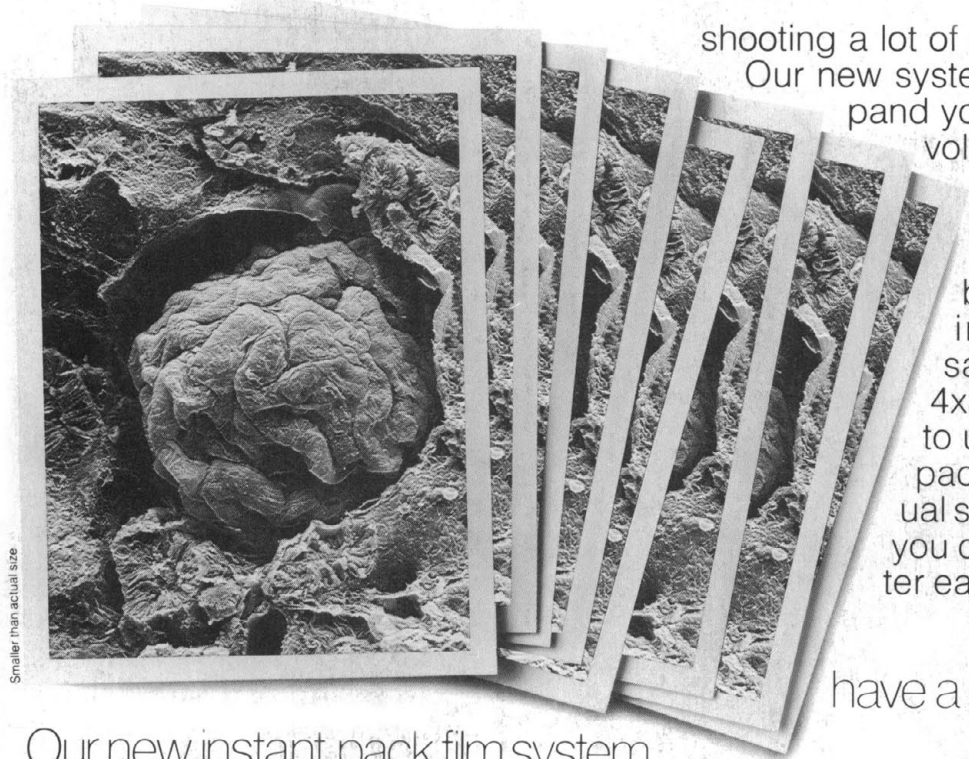
Cetus Corporation, a leader in the commercial application of biotechnology, is seeking a microbiologist/geneticist with practical experience over a broad base of biological applications to coordinate the scientific aspects of the Company's proprietary base. The successful applicant will be the liaison between inventors and the patent counsel, continually maintaining an overview of corporate science with the aim of identifying and developing new concepts and discoveries as they emerge, as well as playing a significant role in corporate scientific strategy. The scientific aspects of corporate licensing will also be a responsibility.

This important staff position will be attractive to mature scientists who wish to move from the laboratory to an administrative role without losing detailed, hands-on involvement in this rapidly developing field.

The successful applicant will join an outstanding team of scientists and managers in a highly motivated, goal-oriented atmosphere. Please send C.V. and salary expectations, in confidence, to **Cetus Corporation, Box "SG", 600 Bancroft Way, Berkeley, California 94710.** An equal opportunity employer.

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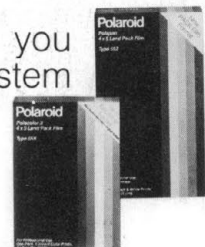
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