

Fernand Vedel). This fact plus the lack of evidence that there are any more structural gene sequences in plant (and in yeast) mitochondria than in animal mitochondria makes the plant mitochondrial genome of interest ("Mitochondrial genome expression in higher plants," C. J. Leaver and B. G. Forde) over and above its expected (and observed) interactions with the nuclear genome.

Restriction mapping of maize ribulose biphosphate carboxylase large subunit gene, of two other structural genes, and of maize 16S, 23S, 4.5S, and 5S ribosomal RNA genes, together with information about how and when these genes are transcribed, constitutes an exciting start toward an understanding of the maize chloroplast genome ("Organisation and transcription of maize chloroplast genes," Lawrence Bogorad *et al.*, and "The organisation in higher plants of the genes coding for chloroplast ribosomal RNA," Tristan A. Dyer and John R. Bedbrook). Twenty genes corresponding to transfer RNA's for 14 amino acids have been located on the map of the spinach chloroplast DNA ("Transfer RNAs and aminoacyl-tRNA synthetases in plant organelles," G. Burkard *et al.*)

The rapid and exciting progress in the collection of data about the organization of the plant cell genomes is nearly matched by the new information on the regulation of the expression of these genomes. The precision of the questions being asked about the effect of time, light, hormones, invading and symbiotic bacteria, and viruses and viroids (each of these topics is dealt with in one or more chapters) on such organization and regulation is evidence that the subject of plant growth and development has matured to a stage attractive for picking by the intellectually curious.

J. E. VARNER

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## Books Received

**Animal Agriculture.** The Biology, Husbandry, and Use of Domestic Animals. H. H. Cole and W. N. Garrett, Eds. Freeman, San Francisco, ed. 2, 1980. xii, 740 pp., illus. \$19.95. A Series of Books in Animal Science.

**Annual Review of Birth Defects, 1978.** Proceedings of a conference, San Francisco, 1978. Liss, New York, 1979. Three volumes, illus. Part A, Diagnostic Approaches to the Malformed Fetus, Abortus, Stillborn, and Deceased Newborn. Mitchell S. Golbus and Bryan D. Hall, Eds. xvi, 190 pp. \$22. Part B, Penetrance and Variability in Malformation Syndromes. James J. O'Donnell and Bryan D.

Hall, Eds. xiv, 382 pp. \$42. Part C, Risk, Communication, and Decision Making in Genetic Counselling. Charles J. Epstein and four others, Eds. xvi, 376 pp. \$36. Birth Defects: Original Articles Series, vol. 15, No. 5A-C.

**Annual Review of Psychology.** Vol. 31. Mark R. Rosenzweig and Lyman W. Porter, Eds. Annual Reviews, Palo Alto, Calif., 1980. xii, 700 pp. \$17.

**Approximate Identities and Factorization in Banach Modules.** Robert S. Doran and Josef Wichmann. Springer-Verlag, New York, 1979. x, 306 pp. Paper, \$19.40.

**Archaeological Investigations in the Cave Creek Area, Maricopa County, South-Central Arizona.** T. Kathleen Henderson and James B. Rodgers. Arizona State University Department of Anthropology, Tempe, 1979. xii, 198 pp., illus. Paper, \$8. Arizona State University Anthropological Research Papers No. 17. Technical Paper No. 2.

**Basic Handbook of Child Psychiatry.** Joseph D. Noshpitz, Ed. Basic, New York, 1979. Four volumes. Vol. 1, Development, xiv, 730 pp., illus. Vol. 2, Disturbances in Development. xii, 750 pp. Vol. 3, Therapeutic Interventions. xiv, 704 pp. Vol. 4, Prevention and Current Issues. xvi, 696 pp. Each volume, \$35.50; the four-volume set, \$138.

**Basic Physiology and Anatomy.** Ellen E. Chaffee and Ivan M. Lytle. Lippincott, Philadelphia, ed. 4, 1980. xvi, 628 pp., illus. \$19.95. Laboratory Manual. Ellen E. Chaffee and Janet M. Valazquez. xii, 222 pp., illus. Paper, \$8.95.

**Catalysis in Chemistry and Biochemistry.** Theory and Experiment. Proceedings of a symposium, Jerusalem, Apr. 1979. Bernard Pullman, Ed. Reidel, Boston, 1979 (distributor, Kluwer Boston, Hingham, Mass.). x, 390 pp., illus. \$45. Jerusalem Symposia on Quantum Chemistry and Biochemistry, vol. 12.

**Catharsis in Healing, Ritual, and Drama.** T. J. Scheff. University of California Press, Berkeley, 1980. xvi, 246 pp. Cloth, \$12.95; paper, \$3.95.

**Cereal Straw.** A. R. Staniforth. Clarendon (Oxford University Press), New York, 1980. xii, 176 pp., illus. \$29.95.

**Chance in Nature.** Papers from a symposium, Canberra, Australia, Apr. 1978. P. A. P. Moran, Ed. Australian Academy of Science, Canberra City, 1979. 92 pp., illus. Paper, A\$3.95.

**Chemical Thermodynamics.** M. L. McGlashan. Academic Press, New York, 1979. xx, 346 pp., illus. \$41.50.

**Classical Dynamics and Its Quantum Analogues.** David Park. Springer-Verlag, New York, 1979. viii, 340 pp., illus. Paper, \$18. Lecture Notes in Physics, vol. 110.

**Earth in Crisis.** An Introduction to the Earth Sciences. Thomas L. Burrus and Herbert J. Spiegel. Mosby, St. Louis, ed. 2, 1980. xiv, 550 pp., illus. \$17.95.

**Ecology and Evolution of Lek Mating Behavior in the Long-Tailed Hermit Hummingbird.** F. Gary Stiles and Larry L. Wolf. American Ornithologists' Union, Washington, D.C., 1979 (order from G. E. Woolfenden, Department of Biology, University of South Florida, Tampa). viii, 78 pp., illus. Paper, \$8.50. Ornithological Monographs No. 27.

**The Economics of Sex Differentials.** Cynthia B. Lloyd and Beth T. Niemi. Columbia University Press, New York, 1979. xviii, 356 pp., illus. \$16.50.

**Edinburgh LCF.** A Mechanised Logic of Computation. Michael J. Gordon, Arthur J.

Milner, and Christopher P. Wadsworth. Springer-Verlag, New York, 1979. viii, 160 pp. Paper, \$11.80. Lecture Notes in Computer Science, vol. 78.

**Electromagnetic Interactions in Elastic Solids.** H. Parkus, Ed. Springer-Verlag, New York, 1979. vi, 426 pp. Paper, \$38.10. International Centre for Mechanical Sciences Courses and Lectures, No. 257.

**Food Trends and Prospects in India.** Fred H. Sanderson and Shyamal Roy. Brookings Institution, Washington, D.C., 1979. xiv, 162 pp. Paper, \$4.95.

**The Fruited Plain.** The Story of American Agriculture. Walter Ebeling. University of California Press, Berkeley, 1980. xiv, 434 pp., illus. \$22.50.

**Fundamentals of Maxwell's Kinetic Theory of a Simple Monatomic Gas Treated as a Branch of Rational Mechanics.** C. Truesdell and R. G. Muncaster. Academic Press, New York, 1980. xxviii, 594 pp. \$54. Pure and Applied Mathematics.

**Fundamentals of Network Analysis.** G. H. Hostetter. Harper and Row, New York, 1979. xx, 474 pp., illus. \$18.95.

**Genesis of Relativity.** Einstein in Context. Loyd S. Swenson, Jr. Burt Franklin, New York, 1980. xvi, 266 pp. + plates. \$21. Studies in the History of Science, 5.

**The Genetic Imperative.** Fact and Fantasy in Sociobiology. A bibliography compiled by Alan V. Miller. Pink Triangle Press, Toronto, 1979. x, 108 pp. Paper, \$6. Canadian Gay Archives Publication No. 2.

**Inborn Errors of Specific Immunity.** Proceedings of a symposium, Albany, N.Y., Oct. 1978. Bernard Pollara, Richard J. Pickering, Hilaire J. Meuwissen, and Ian H. Porter, Eds. Academic Press, New York, 1979. xviii, 470 pp., illus. \$34. Birth Defects Institute Symposia.

**Instrument Enrichment.** An Intervention Program for Cognitive Modifiability. Reuven Feuerstein in collaboration with Ya'acov Rand, Mildred B. Hoffman, and Ronald Miller. University Park Press, Baltimore, 1980. xxvi, 436 pp., illus. \$24.95.

**Integrated Technology Transfer.** Jacques Richardson, Ed. Lomond Books, Mt. Airy, Md., 1979. xii, 162 pp., illus. \$12.75. Reprinted from *Impact of Science on Society*.

**Local Jet Bundle Formulation of Bäcklund Transformations.** With Applications to Non-Linear Evolution Equations. F. A. E. Pirani, D. C. Robinson, and W. F. Shadwick. Reidel, Boston, 1979. viii, 132 pp. Paper, \$11.85. Mathematical Physics Studies, vol. 1.

**The North Burgos Archaeological Survey.** Bronze and Iron Age Archaeology on the Meseta del Norte (Province of Burgos, North-Central Spain). Geoffrey A. Clark, Ed. Arizona State University Department of Anthropology, Tempe, 1979. xx, 308 pp., illus. Paper, \$9.50. Arizona State University Anthropological Research Papers No. 19.

**Oceanographic Atlas of the Bering Sea Basin.** Myron A. Sayles, Knut Aagaard, and L. K. Coachman. University of Washington Press, Seattle, 1980. xii, 158 pp. \$15.

**Optimal Experiment Design for Dynamic System Identification.** Martin B. Zarrop. Springer-Verlag, New York, 1979. x, 198 pp. Paper, \$14. Lecture Notes in Control and Information Sciences, vol. 21.

**Philosophical Perspectives in Artificial Intelligence.** Martin Ringle, Ed. Humanities Press, Atlantic Highlands, N.J., 1980. xii, 244 pp. \$17.50.

**Photosynthesis Bibliography.** Vol. 5, 1974. (Continued on page 568)

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## BOOKS RECEIVED

(Continued from page 533)

Z. Sesták and J. Catsky, Eds. *Junk, The Hague*, 1979 (U.S. distributor, Kluwer Boston, Hingham, Mass.). Two volumes. vi, 358 pp. Paper, \$73.70.

**Physical and Mechanistic Organic Chemistry.** Richard A. Y. Jones. Cambridge University Press, New York, 1980. x, 358 pp., illus. Cloth, \$57.50; paper, \$17.50. Cambridge Texts in Chemistry and Biochemistry.

**Psychiatric Consultation in Mental Retardation.** Formulated by the Committee on Mental Retardation. Group for the Advancement of Psychiatry, New York, 1979. pp. 591-694. Paper, \$4. GAP Publication No. 104.

**Puddingstone, Drumlins, and Ancient Volcanoes.** A Geologic Field Guide along Historic Trails of Greater Boston. James W. Skehan. WesStone Press, Dedham, Mass., ed. 2, 1979. xx, 74 pp., illus. Paper, \$4.

**The Quantum Theory of Light.** Rodney Loudon. Clarendon (Oxford University Press), New York, 1980. xii, 338 pp., illus. Paper, \$19.50. Reprint of the 1973 edition.

**Radiation Chemistry of Carbohydrates.** N. K. Kochetkov, L. I. Kudrjashov, and M. A. Chlenov. Translated from the Russian edition by M. A. Chlenov and L. V. Backinowsky. G. O. Phillips, Transl. Ed. Pergamon, New York, 1979. viii, 248 pp., illus. \$43.

**Radiational Theory of Gravitation and Structure of Matter.** Gravitation as an Inexhaustible Source of Energy. Jaromír Hrbek. Státní Pedagogické Nakladatelství, Prague, 1978. 328 pp. Paper, Kcs. 50. Publication from the Institute for Research of Higher Nervous Activity-XX, Monograph Series No. 3.

**Radiative Processes in Astrophysics.** George B. Rybicki and Alan P. Lightman. Wiley-Interscience, New York, 1979. xviii, 382 pp., illus. \$29.95.

**Radiology of Haemophilic Arthropathies.** Jenő Forrai. Translated from the Hungarian. Nijhoff, The Hague, 1979 (U.S. distributor, Kluwer Boston, Hingham, Mass.). 146 pp., illus. \$25.65.

**Radionuclide Techniques in Medicine.** Joan M. McAlister. Cambridge University Press, New York, 1980. x, 230 pp., illus. Cloth, \$34.50; paper, \$10.95. Techniques and Measurement in Medicine, 3.

**Rand McNally Road Atlas.** 1980 Edition. Rand McNally, Chicago, ed. 56, 1980. 128 pp. Paper, \$4.95.

**Rational-Emotive Therapy.** A Skills-Based Approach. Russell Grieger and John Boyd. Van Nostrand Reinhold, New York, 1980. xiv, 288 pp. \$15.95.

**Recent Advances in Gerontology.** Proceedings of a congress, Tokyo, Aug. 1978. Hajime Orimo, Kaoru Shimada, Masami Iriki, and Daisaku Maeda, Eds. Excerpta Medica, Amsterdam, 1979 (U.S. distributor, Elsevier/North-Holland, New York). xxii, 684 pp., illus. \$114.75.

**Reflex Control of Posture and Movement.** Proceedings of a symposium, Pisa, Italy, Sept. 1978. R. Granit and O. Pompeiano, Eds. Elsevier/North-Holland, New York, 1979. xx, 828 pp., illus. \$122. Progress in Brain Research, vol. 50.

**A Relational Data Base Management System.** A. T. F. Hutt. Wiley-Interscience, New York, 1979. xiv, 226 pp., illus. \$23.50. Wiley Series in Computing.

**Renal Medicine.** E. N. Wardle. University Park Press, Baltimore, 1979. viii, 436 pp., illus. \$27.50. Guidelines in Medicine, vol. 2.

## Research Directions of Black Psychologists.

A. Wade Boykin, Anderson J. Franklin, and J. Frank Yates. Russell Sage Foundation, New York, 1979 (distributor, Basic, New York). xvi, 440 pp. \$20.

**Response of Fish to Habitat Structure in Standing Water.** Proceedings of a symposium, Columbus, Ohio, Dec. 1978. David L. Johnson and Roy A. Stein, Eds. Available from the editors, Division of Fisheries and Wildlife Management, Ohio State University, Columbus, 1979. iv, 78 pp., illus. Paper, \$4. North Central Division, American Fisheries Society Special Publication No. 6.

**Rings of Stone.** The Prehistoric Stone Circles of Britain and Ireland. Aubrey Burl. Photographs by Edward Piper. Ticknor and Fields, New Haven, Conn., 1980. 280 pp. \$19.95.

**The Role of Medicine.** Dream, Mirage or Nemesis? Thomas McKeown. Princeton University Press, Princeton, N.J., 1980. xvi, 208 pp., illus. Cloth, \$16; paper, \$5.95.

**Schizophrenic Disorders.** Theory and Treatment from a Psychodynamic Point of View. Ping-Nie Pao. International Universities Press, New York, 1979. xvi, 456 pp. \$27.50.

**Secretary Mechanisms.** Papers from a symposium, Guildford, England, Sept. 1978. Published for the Society for Experimental Biology by Cambridge University Press, New York, 1980. viii, 400 pp., illus. + plates. \$65. Symposia of the Society for Experimental Biology, No. 33.

**Selective Toxicity.** The Physico-chemical Basis of Therapy. Adrien Albert. Chapman and Hall, London, and Halsted (Wiley), New York, ed. 6, 1979. xiv, 662 pp., illus. \$42.50.

**Selye's Guide to Stress Research.** Vol. 1. Hans Selye, Ed. Van Nostrand Reinhold, New York, 1980. xviii, 350 pp., illus. \$22.50.

**Semiconductor Devices for Optical Communication.** H. Kressel, Ed. Springer-Verlag, New York, 1980. xiv, 290 pp., illus. \$49.80. Topics in Applied Physics, vol. 39.

**Seven Decades That Changed America.** A History of the American Society of Agricultural Engineers, 1907-1977. Robert E. Stewart. American Society of Agricultural Engineers, St. Joseph, Mich., 1979. vi, 434 pp., illus. \$19.95.

**Slow Transmissible Diseases of the Nervous System.** Vol. 1, Clinical, Epidemiological, Genetic, and Pathological Aspects of the Spongiform Encephalopathies. Papers from a symposium, Hamilton, Mont., Oct. 1978. Stanley B. Prusiner and William J. Hadlow, Eds. Academic Press, New York, 1979. xxiv, 472 pp., illus. \$34.50.

**Testing, Teaching and Learning.** Report of a conference, Aug. 1978. National Institute of Education, Washington, D.C., 1979 (available from the Superintendent of Documents, Washington, D.C.). viii, 392 pp. + appendix. Paper, \$8.

**Theoretical Cosmology.** A. K. Raychaudhuri. Clarendon (Oxford University Press), New York, 1980. x, 298 pp. \$26.50. Oxford Studies in Physics.

**Toxic Constituents of Plant Foodstuffs.** Irvin E. Liener, Ed. Academic Press, New York, ed. 2, 1980. xiv, 504 pp., illus. \$39.50. Food Science and Technology.

**Wood for Energy Production.** Nicholas F. Cheremisinoff. Ann Arbor Science, Ann Arbor, Mich., 1980. viii, 152 pp., illus. \$20. Energy Technology Series.

**World Climate.** The Weather, the Environment and Man. T. F. Gaskell and Martin Morris. Thames and Hudson, New York, 1980. 144 pp., illus. \$14.95.

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**Graduate Study/Fellowship.** Seeking best opportunity to continue research in evolutionary genetics using recombinant DNA techniques. Other research experience in ecology and computer programming. B.A. biology, UCLA 1980. Director, Evolution Research Center. G. Lennon, 108 North Maple Drive, Beverly Hills, Calif. 90210. X

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**Free-lance Pharmacologist.** Energetic Ph.D. with extensive medical school teaching experience seeks temporary assignments in medical school departments with teaching needs. Capable of teaching portions of physiology and biochemistry, and entire courses in pharmacology. Not seeking permanent position, but concentrated instructional blocks (2 to 6 weeks). Presently interested in filling commitments for academic year 1981-1982. For curriculum vitae, references, and other relevant information: Box 255, SCIENCE. X

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**Social Ecologist.** Ph.D. 1978. Three years of university teaching in environmental planning. Broad background in ecology and social science. Publications in computer modeling and in rural sociology. Seeks research or teaching position. Box 249, SCIENCE. X

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University of Michigan Medical School, Department of Internal Medicine, Nephrology Division, has a position available at the **ASSISTANT PROFESSOR OR ASSOCIATE PROFESSOR** level. The appointee will be expected to commit a significant effort to research and also to participate in the clinical and educational program. Demonstrated research capability or potential based on performance in a research training program. M.D. degree or equivalent. A Board-qualified internist with subspecialty training in nephrology is preferred; however, individuals with exceptional research credentials who do not meet these criteria will be considered. Reply to: **Dr. Richard Tannen, Chief of Nephrology, Box 056, B2954 CFOB, University Hospital, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. Code 136BO.

University of Michigan Medical School. **ASSISTANT PROFESSOR OF INTERNAL MEDICINE**, Division of Endocrinology and Metabolism. Minimum qualifications are M.D., residency training in internal medicine, and fellowship training in endocrinology and metabolism. Research training, interest, and record of productivity in studies on mechanism of action and interaction of hormones at cellular and molecular levels intermediary metabolism, as well as training in clinical investigation. Record of teaching ability. Board-certified. Reply to: **Stefan S. Fajans, M.D., Chief of Endocrinology and Metabolism, Box 002, C7009 Outpatient, University Hospital, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. Code 138BO.

University of Michigan Medical School, Department of Internal Medicine, has a position available at the **ASSOCIATE PROFESSOR THROUGH PROFESSOR** level. Commitment to full-time academic medicine, Board-certification/eligibility in internal medicine and gastroenterology. Completion of a university-based training program in gastroenterology. Record of productivity in scholarly efforts in gastroenterology. Some experience in administration and organization of educational courses desirable. To organize and assume responsibility for the service in gastroenterology located at the VA Hospital and to participate in the activities of the Department of Internal Medicine at that hospital. Reply to: **Dr. Keith Henley, Division of Gastroenterology, Box 058, R6592 Kresge I, University Hospital, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. Code 277BO.

University of Michigan Medical School, **DEPARTMENT OF OBSTETRICS AND GYNECOLOGY**, is undergoing a major rebuilding program and is seeking applicants who have an M.D. degree, postdoctoral training, and Board-qualification or certification in endocrinology and human reproduction. Positions at any academic level (instructor through professor) will be considered. Send curriculum vitae, brief summary of present and future research, and names and addresses of three references to: **Alan E. Beer, M.D., Professor and Chairman, Department of Obstetrics and Gynecology, Women's Hospital, University of Michigan Medical School, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. Code 03DO.

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**ASSISTANT OR ASSOCIATE PROFESSOR**—The Department of Biochemistry at the University of Mississippi Medical Center, invites applications for two tenure-track faculty positions. Applicants whose research interests center upon primary structure of nucleic acids, nucleic acid processing, the biochemistry of cellular ultrastructure, or the regulation of metabolism in eukaryotic cells are especially encouraged to apply. Highly qualified candidates in other areas of biochemistry will also be considered. This department has undergone vigorous development and established fields of investigation including developmental biology, nucleic acid and protein synthesis, membrane biochemistry, x-ray crystallography, and the structure and cloning of eukaryotic genes. The department is well equipped for most areas of biochemistry and has a P3 facility for recombinant DNA research. Please send curriculum vitae, bibliography, at least one reprint of a recent publication, and the names of three referees by 31 December 1980 to: **Dr. Richard C. Hunt, Department of Biochemistry, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216.** Equal Opportunity Employer, M/F.

University of Michigan Medical School, Department of Internal Medicine, is seeking a **DIRECTOR FOR ITS EDUCATIONAL PROGRAMS**. This person will be responsible for coordinating all educational activities in the department. Candidates should be certified in internal medicine and have previous administrative experience. Address inquiries, including curriculum vitae, to: **William N. Kelley, M.D., Chairman, Department of Internal Medicine, University of Michigan Medical School, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. Code 118BO.

University of Michigan Medical School, Department of Biological Chemistry, has a **FACULTY POSITION** available immediately. Candidate should have interest and research experience in eucaryotic gene expression. Should also have strong chemical background and interest in teaching biochemistry and molecular biology. Please send résumé to: **Chairman, Search Committee, Department of Biological Chemistry, University of Michigan, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. Code 37FO.

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## POSITIONS OPEN

University of Illinois  
Schools of Basic Medical Sciences and  
Life Sciences at Urbana-Champaign  
**ANATOMIST/NEUROSCIENTIST**  
**ASSISTANT OR ASSOCIATE PROFESSOR**

The Program in Anatomical Sciences and School of Basic Medical Sciences seek an individual to teach in the anatomy curriculum to medical students and in the graduate programs within the School of Life Sciences. Candidates must have a Ph.D. and/or M.D. degree with formal training in gross anatomy and postdoctoral experience. Quality and potential of research program are more important than the specific area, but interests in developmental and cellular neurobiology are preferred. The successful candidate will also be expected to participate in a campus-wide Neural and Behavioral Biology Program. The position is available 21 August 1981, and is a permanent full-time faculty appointment. To ensure full consideration, applicants should submit curriculum vitae, a summary of future research plans, and at least three letters of reference by 15 January 1981 to:

**Dr. James A. Weyhenmeyer**  
Chairperson, Search Committee  
190 Medical Sciences Building  
University of Illinois  
Urbana, Illinois 61801  
Telephone: 217-333-2434

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

**ASSISTANT PROFESSOR**, Division of Pharmacology. We are seeking to fill three positions at the assistant professorship level in the Division of Pharmacology of the Sidney Farber Cancer Institute and the Department of Pharmacology at Harvard Medical School. Candidates should be prepared to develop independent research programs in an area of biochemical or clinical pharmacology relevant to cancer. Areas of interest include, but are not limited to, membrane biology (receptors, hormones), drug-DNA interaction (including repair), cell differentiation (as influenced by drugs), and pharmacokinetics. Applicants should send curriculum vitae and bibliography, including a short description of research interest and the names of three references, to: **Fran Whitfield, Division of Pharmacology, SIDNEY FARBER CANCER INSTITUTE, 44 Binney Street, Boston, Mass. 02115.** An Affirmative Action/Equal Opportunity Employer.

The Department of Biochemistry and  
Molecular Biology  
University of Florida College of Medicine

We are seeking applicants for tenure-track position at the **ASSISTANT PROFESSOR AND/OR ASSOCIATE PROFESSOR** levels. The applicants must have a Ph.D. or M.D. degree and postdoctoral training. The successful applicant will be expected to maintain an excellent research program as well as to participate in teaching. Prior to 18 November 1980, curriculum vitae, a description of proposed research, and the names of four references should be sent to: **Dr. Gary S. Stein, Chairman, Department of Biochemistry and Molecular Biology Search Committee, College of Medicine, University of Florida, Box J-245 JHMC, Gainesville, Florida 32610.** Equal Opportunity/Affirmative Action Employer. Anticipated starting date: 1 September 1981.

**ASSISTANT PROFESSOR.** Tenure-track position for micropaleontologist (calcareous) beginning August 1981. Applicants should have a Ph.D. and will be expected to develop a strong research program. Teaching duties include one undergraduate, one senior or graduate-level course per semester, and supervision of M.S. and Ph.D. student research. Send résumé and three letters of recommendation by 1 March 1981 to: **Dr. H. Y. Ling, Search Committee Chairman, Department of Geology, Northern Illinois University, DeKalb, Ill. 60115.** An Equal Opportunity/Affirmative Action Employer.

**ASSISTANT PROFESSORSHIP IN CELLULAR IMMUNOLOGY.** Cellular immunologists are invited to apply for a tenure-track assistant professorship in the Department of Microbiology, University of Texas at Austin. Responsibilities include development of an independent research program and teaching undergraduate and graduate courses. Position is available September 1981. Send curriculum vitae and three references to: **Dr. Paul D. Gottlieb, Search Committee Chairman, Department of Microbiology, University of Texas at Austin, Austin, Texas 78712.** An Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

The Pennsylvania State University, Department of Anthropology, anticipates funding for a tenure-track appointment at the rank of ASSISTANT PROFESSOR beginning September 1981. Applicants must have the Ph.D. The person appointed will have a strong interest in research in cultural anthropology compatible with the quantitative orientation of the department. We will also consider a person whose main interest is in linguistics.

Those wishing to apply should send current curriculum vitae to: **W. T. Morrill, Chairman of the Search Committee, 409 Carpenter Building, The Pennsylvania State University, University Park, Pa. 16802.** Curriculum vitae should include names of persons familiar with the applicant's work, but letters of reference should not be sent at this time. The closing date for applications is 1 February 1981.

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

### ASSISTANT PROFESSOR, BIOCHEMISTRY

Applications are invited for a tenure-track position in the Department of Chemistry at Oakland University. The successful candidate will be required to develop an externally funded, biochemically oriented research program and to participate in the undergraduate and graduate biochemistry-related teaching programs. Applicants with related backgrounds in organic, analytical, and/or environmental chemistry are especially sought. Applications should include curriculum vitae, copies of publications, graduate and undergraduate transcripts, and a brief (four pages or fewer) statement of research (sent separately). Respond to: **Denis M. Callewaert, Chairman of the Search Committee, Department of Chemistry, Oakland University, Rochester, Mich. 48063.** Oakland University is located in southeastern Michigan within 25 miles of Detroit. *Oakland University is an Equal Opportunity/Affirmative Action Employer.* The deadline for receipt of applications is 15 December 1980.

**ASSISTANT PROFESSOR—BIOCHEMISTRY**  
**Queens College, City University of New York (CUNY).** Applications are invited for a tenure-track appointment at the assistant professor rank, preferably with an interest involving eukaryotes, starting September 1981. The appointment is subject to budgetary approval. The successful candidate will be expected to establish a vigorous research program and to teach graduate and undergraduate courses in biochemistry and chemistry. Applications, including curriculum vitae, a concise statement of proposed research, and the names of three references should be sent to: **Dr. George Axelrad, Chairman, Department of Chemistry, Queens College, CUNY, Flushing, New York 11367.** *Queens College is an Affirmative Action/Equal Opportunity Employer. Women and minority group candidates are encouraged to apply.*

### ASSOCIATE OR FULL PROFESSOR

Requires Ph.D. with training and experience in biochemistry and phytosynthesis; national stature as a leader in research in the field of biochemistry; demonstrated commitment to excellence in teaching; and interest in research administration. Responsible for developing and overseeing a basic marine biochemistry research program particularly directed toward the study of phytosynthesis in marine organisms and the investigation of biochemical processes unique to organisms growing under saline conditions; and developing the research center as a financially self-supporting technical center of excellence. Rank and salary commensurate with qualifications. Located at Marine Studies Complex, Lewes, Del. Send résumé and three letters of reference by 14 November 1980 to: **Richard Schneider, College of Marine Studies, University of Delaware, Newark, Del. 19711.**

*The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.*

### BIOLOGY FACULTY POSITION

Faculty position, rank and salary open, is anticipated in the Department of Biology, Virginia Commonwealth University. Candidates should have an established research program in one of the following areas: (i) benthic ecology, (ii) aging, or (iii) human physiology. The candidate should be able to teach general biology and an advanced course in the area of expertise. Send curriculum vitae, representative publications, and the names of three references to: **Dr. Peter E. Giebel, Department of Biology, Virginia Commonwealth University, Richmond, Virginia 23284.** Application deadline: 15 January 1981. *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR, BIOCHEMISTRY.** Applications are invited for a position at the assistant professor level (tenure-track) in the Department of Biochemistry, New York University School of Medicine. Duties will include teaching medical and graduate students. Applicants must be strongly motivated towards research. Preference will be given to those candidates interested in areas of molecular biology, concerned with nucleic acids, gene expression, and genetic recombination. In applying, please send curriculum vitae, a brief statement of research interest (one to two pages only), and the names of four referees to: **Professor G. Nigel Godson, Chairman, Department of Biochemistry, New York University Medical Center, 550 First Avenue, New York, N.Y. 10016.** Deadline: 15 December 1980. *An Equal Opportunity/Affirmative Action Employer, M/F.*

**ASSISTANT PROFESSOR IN CLINICAL PHARMACOLOGY.** A position is available for a medical graduate with a background in the clinical pharmacology of prostaglandins and experience in prostaglandin methodology. Additional opportunities for research exist in the area of adrenergic clinical pharmacology. Training in clinical pharmacology is required. *Sex, race, religion, or national origin will not be factors in the selection process.* Applicants should send curriculum vitae and the names of three references to: **John A. Oates, M.D., Division of Clinical Pharmacology, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee 37232.**

### ASSISTANT/ASSOCIATE PROFESSOR OF NUCLEAR MEDICINE DEPARTMENT OF RADIATION MEDICINE

M.D. or M.D./Ph.D. clinical, teaching, and research in academic nuclear medicine for Board-eligible or -certified person. Joint VAH/UK position in tenure-track. Research interests and experiences in tumor localization desirable. Active research program ongoing. Send curriculum vitae, bibliography, and names of three references to: **Chairman, Department of Radiation Medicine, University of Kentucky Medical Center, Lexington, Kentucky 40536.** *An Equal Opportunity Employer.*

**ASSISTANT/ASSOCIATE PROFESSOR, NUTRITIONIST.** The Department of Animal Science and Aquaculture Program, University of California, Davis, are seeking an assistant/associate professor in nutrition (30 percent teaching/70 percent research). Applicants must have a background in nutritional physiology and biochemistry and a strong interest in fish nutrition with a Ph.D. in an appropriate discipline. The appointee will be expected to teach undergraduate and graduate courses on fish and comparative nutrition and to develop a research program emphasizing nutrition and metabolism in fish of commercial significance. Applicants should submit their curriculum vitae, transcripts, bibliography, reprints, and the names and addresses of at least three persons familiar with their work to: **S. I. Doroshov, Chair, Search Committee, Department of Animal Science, University of California, Davis, Calif. 95616,** by 15 February 1981.

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

The Pennsylvania State University, Department of Anthropology, anticipates funding for a tenure-track position at the ASSOCIATE PROFESSOR level beginning September 1981. We are seeking a cultural anthropologist with research interests suitable for participation in graduate education. Applicants should have theoretical orientations compatible with the department's emphasis on quantitative methods. Interested persons should send a letter of application and current curriculum vitae to: **Warren T. Morrill, 409 Carpenter Building, The Pennsylvania State University, University Park, Pa. 16802.** Curriculum vitae should list references, but letters of reference should not be requested at this time. The closing date for applications is 1 February 1981.

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

## POSITIONS OPEN

**BIOCHEMIST—**Tenure-track assistant professorship, beginning September 1981, in an ACS-accredited department with ten chemists. An interdisciplinary B.S. degree in biochemistry is offered. Duties include teaching undergraduate courses in biochemistry and chemistry. Candidates with interests in all areas of biochemistry will be considered; preference will be given to those with interests in metabolic or enzyme studies. Ph.D. and postdoctoral experience required. Strong commitment to teaching and ability to develop a research program expected. Send application, three letters of recommendation, and transcripts to: **Biochemistry Faculty Search Secretary, College of Arts, Sciences and Letters, The University of Michigan-Dearborn, Dearborn, Mich. 48128.** *A nondiscriminatory, Affirmative Action/Equal Opportunity Employer.*

Immediate opening for Ph.D. in **BIOCHEMISTRY** in research laboratory to study the role of lipid intermediates in glycoprotein biosynthesis in animal cells. Must have at least 4 years of postdoctoral experience and relevant training in synthesis and biosynthesis of retinol and dolichol glycosyl derivatives as well as structure of lipid intermediates and glycoprotein. Experience with cell culture and cell-free systems desirable. Salary: \$16,000. Send curriculum vitae and names of three references to: **Dr. R. W. Jeanloz, Laboratory for Carbohydrate Research, Massachusetts General Hospital, Boston, Mass. 02114.**

### BIOCHEMISTRY POSITION

To study the biosynthesis of glycoproteins. Experience with enzymology of membrane systems preferred. Salary up to \$19,000 per year. Send résumé and two letters of recommendation to:

**Dr. I. K. Vijay  
Department of Dairy Science  
Animal Sciences Center  
University of Maryland  
College Park, Maryland 20742**  
*An Equal Opportunity/Affirmative Action Employer*

**BIOLOGIST.** Seek Ph.D. in mammalian or cellular physiology to join a research group evaluating the toxicity and mutagenicity of environmental pollutants. Experience in cytogenetics and cell culture is most desirable. Send curriculum vitae and names of two references to: **Dr. D. C. Borg, Chairman, Medical Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, N.Y. 11973.** *An Equal Opportunity Employer, M/F.*

**CHAIRPERSON.** Department of Biochemistry—Candidates must have substantial background in academic medicine evidenced by a record of excellence in teaching, research, and leadership in medical and graduate education. Interested persons are encouraged to submit their credentials and curriculum vitae to: **Dr. Donald E. Hill, Chairman, Biochemistry Search Committee, Slot 512, University of Arkansas College of Medicine, University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, Arkansas 72201.** *Affirmative Action/Equal Opportunity Employer.*

### CHAIRMAN DEPARTMENT OF BIOLOGY

Davidson College is conducting a search for a chairman of its Department of Biology. The successful candidate will possess the experience, the capacity, and the imagination: (i) to teach and to conduct personal research with undergraduates, (ii) to administer a small department offering instruction in botany and zoology, (iii) to promote high-quality student-faculty research throughout the department, and (iv) to obtain funding for personal research, for departmental equipment, and for curriculum improvements.

A candidate with research specialization in molecular biology, especially plant molecular biology, is preferred. The position is available 1 August 1981. Candidates should send a letter of application and a résumé including three references by 28 November 1980 to: **Dr. J. N. Burnett, Associate Dean of the Faculty, Davidson College, P.O. Box 2497, Davidson, North Carolina 28036.**



# STAUFFER CHEMICAL COMPANY

## BIOLOGICAL RESEARCH SCIENTISTS

Stauffer Chemical Company is seeking applications for positions in our Biological Research group. These positions are located at Stauffer's de Guigne Technical Center in Richmond, California.

If you are a highly talented scientist and challenged by the newer areas of biological and biochemical research, the following positions may be of interest to you.

### MOLECULAR BIOLOGISTS

Applicants should have a Ph.D. or equivalent in molecular biology or genetics and must have research experience in cloning techniques with microorganisms and/or plants.

### BIOCHEMISTS

Experienced biochemists at the Ph.D. or equivalent level. Knowledgeable in isolation and handling DNA and RNA. Experience in virology and protein isolation desirable. In addition, positions are open for Ph.D. or equivalent level biochemists trained in enzyme kinetics and metabolism.

### PLANT PHYSIOLOGIST

The position requires a Ph.D. or equivalent experience in the molecular aspects of plant physiology with interests in uptake and transport at the cellular level.

### PLANT MORPHOGENETICIST

Applicants should hold a Ph.D. or equivalent in plant science with interest and experience in regeneration of plants from tissue culture and molecular aspects of plant physiology.

### MICROBIAL GENETICIST

Geneticists at the Ph.D. or equivalent level should have experience in mutational techniques and the biochemistry and genetics of microorganisms. Experience in fermentation technology will be of value.

All positions offer competitive compensation along with a comprehensive benefit package in addition to an attractive San Francisco Bay Area location.

If you are interested in *opportunities with Stauffer*, send your confidential résumé (please refer to the position of interest), statement of research interests and experience, and names of three references to:

James P. Baker  
Manager, Administrative Services  
Stauffer Chemical Company  
1200 S. 47th Street  
Richmond, CA 94804

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

## POSITIONS OPEN

### CHAIRMAN, DEPARTMENT OF PATHOLOGY

The Georgetown University Schools of Medicine and Dentistry are conducting a search for qualified candidates for professor and chairman of the Department of Pathology. Candidates should have the appropriate credentials and experience in research, administration, and teaching.

Interested candidates or those interested in proposing candidates for this position should send a letter and brief résumé to:

John Dillon, M.D.  
Chairman, Pathology Search Committee  
605 Kober Cogan Building  
Georgetown University Medical Center  
3800 Reservoir Road, NW  
Washington, D.C. 20007

*Georgetown University is an Affirmative Action/Equal Opportunity Institution and Employer.*

**CHAIRMAN OF MEDICAL TECHNOLOGY DEPARTMENT**—Two-year upper division baccalaureate program in large, urban, health-oriented university. Master's degree required; doctorate preferred. ASCP-certified medical technologist preferred. A minimum of 3 years of teaching experience in medical technology required; clinical laboratory experience preferred. Demonstrated ability and/or experience in administration, program development, and research desired. Rank and salary commensurate with qualifications and experience. Position available immediately. Submit curriculum vitae to: Mary Naylor, Vice Chairman, Search Committee for Chairman of Department of Medical Technology, College of Allied Health Sciences, THOMAS JEFFERSON UNIVERSITY, 6th Floor, Health Science Center, Philadelphia, Pa. 19107. *Equal Opportunity Employer.*

### CURATORIAL POSITION IN MAMMALOGY

Applications and nominations are invited for a curatorial position in the Section of Mammalogy of the Natural History Museum of Los Angeles County. This full-time position is anticipated to begin early in 1981 and carries responsibilities in the areas of research, collections, exhibits, and public service. Desired qualifications include a Ph.D., an active research program in systematic terrestrial mammalogy, and a strong commitment to the management of an important cosmopolitan collection of mammals. Opportunities exist for work with graduate students. Send résumé, copies of reprints, description of research interests, and names of three professional references by 14 November 1980 to: Chairman, Mammalogy Search Committee, Natural History Museum, 900 Exposition Boulevard, Los Angeles, Calif. 90007. *An Equal Opportunity/Affirmative Action Employer.*

Genentech, Inc., a rapidly growing research-oriented company, seeks a highly qualified individual as **DIRECTOR OF BIOLOGY**. Candidates should have a Ph.D. and a minimum of 10 years of increasingly responsible industrial pharmaceutical research experience, at least half of which must be in management. One or more years in formulation of proteins obtained by recombinant DNA or related compounds is essential. Experience developing strategies for anti-viral therapies is also desired.

Genentech is located on the San Francisco Peninsula and offers excellent working conditions, salaries, and benefits.

Please send a résumé and a list of three references to:

Human Resources  
Genentech, Inc.  
460 Point San Bruno Boulevard  
South San Francisco, Calif. 94080

Genentech, Inc., a rapidly growing research-oriented company, seeks a highly qualified individual as a **SENIOR SCIENTIST** in the Molecular Biology Division. Candidates should have a Ph.D. and a minimum of 5 years of postdoctoral research experience, preferably in the area of recombinant DNA research, two of which should be in the pharmaceutical industry. Thorough knowledge of recent molecular biology techniques is essential.

Genentech is located on the San Francisco Peninsula and offers excellent working conditions, salaries, and benefits.

Please send a résumé and a list of three references to:

Human Resources  
Genentech, Inc.  
460 Point San Bruno Boulevard  
South San Francisco, Calif. 94080

## POSITIONS OPEN

### Chemist

### NITROSAMINE CHEMISTRY

The Frederick Cancer Research Center is presently seeking experienced candidates to assist in significant research activities in nitrosamine chemistry. One position will involve synthetic, analytical, mechanism, and metabolic studies. The other position will assist in mechanism and kinetic studies. Both positions require a minimum of a B.S. in organic chemistry plus 2 years of related experience or a M.S. degree with little or no experience. Experience with HPLC, GLC, and TEA will be an asset.

Please forward résumé with salary interest in confidence to:

Personnel  
Frederick Cancer Research Center  
Litton Bionetics, Inc.  
Position Number 1601C  
P.O. Box B  
Frederick, Md. 21701  
*Equal Opportunity Employer, M/F*

### DEAN, FACULTY OF ARTS AND SCIENCES UNIVERSITY OF VIRGINIA, CHARLOTTESVILLE

The University of Virginia, a major public university, invites applications and nominations for the position of dean of the Faculty of Arts and Sciences starting academic year 1981-1982. The dean of the faculty is the principal academic and administrative officer of the College of Arts and Sciences which encompasses 24 disciplines.

Send nominations and applications by 1 December 1980 to:

Willard H. Harrison  
Chairman of the Search Committee  
Department of Chemistry  
University of Virginia  
Charlottesville, Virginia 22903

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

### DEVELOPMENTAL BIOLOGIST

The Department of Biology at Washington University in St. Louis desires to appoint as an additional faculty member a developmental biologist studying control mechanisms involved in the differentiation of metazoan cells. Applications are solicited from individuals who have demonstrated exceptional competence in research in this area beyond the doctorate and who are interested in both undergraduate and graduate teaching. Although it is anticipated that most applicants will be at a junior level, applications from senior individuals will be welcomed. Applicants should send curriculum vitae and a description of present and future research interests, and request that three letters of reference be sent to: Dr. David L. Kirk, Department of Biology, Washington University, St. Louis, Mo. 63130. *An Equal Opportunity/Affirmative Action Employer.*

### DIRECTOR, CENTER FOR MARINE AND ENVIRONMENTAL STUDIES

Opening for an individual with an engineering background with research experience in solid, liquid, and hazardous waste control including chemical and biological concerns, and with administrative experience in planning and developing interdisciplinary research and educational programs in such areas as environmental and marine sciences and ocean engineering. Affiliation with appropriate academic department anticipated.

Send application, together with three references who may be telephoned, to: Dr. J. F. Libsch, Vice President-Research, Lehigh University, Whitaker Laboratory Number 5, Bethlehem, Pa. 18015. *An Equal Opportunity/Affirmative Action Employer.*

**DIRECTOR, LABORATORY MEDICINE INSTITUTE.** The Division of Laboratories and Research of the New York State Department of Health announces a vacancy for director of the Laboratory Medicine Institute. The position requires an M.D. with licensure in the state of New York, and preferably with Board-certification in anatomy or clinical pathology. Duties involve professional administration of personnel responsible for proficiency testing programs and research programs in clinical chemistry and basic biochemistry, hematology, and coagulation ultrastructural analysis, and molecular pathology. Experience in academic pathology, laboratory diagnosis, basic or applied research, and health science administration are desirable. Clinical or basic science academic appointment possible at local universities. Send curriculum vitae to: Felix H. Heilpern, Administrative Officer, Division of Laboratories and Research, New York State Department of Health, Empire State Plaza, Albany, N.Y. 12201. *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### FACULTY POSITIONS

The Virginia-Maryland Regional College of Veterinary Medicine invites applications from individuals interested in faculty appointments in the Division of Veterinary Biology. Teaching experience in the broad areas of veterinary gross and microscopic anatomy, physiology, pathology, or pharmacology is desirable.

Candidates should desire participating in the programs of a new and developing college, and be prepared to develop a productive research program in their area of expertise. The opportunity for participation in clinical service is available. Salary and faculty rank will be commensurate with experience and qualifications.

Letters of application should include curriculum vitae, research and teaching goals, and names and addresses of three persons who will provide letters of reference.

Closing date for applications is 1 January 1981, or until the positions are filled.

Correspondence should be addressed to:

Chairman, Division of Veterinary Biology  
Virginia-Maryland Regional College  
of Veterinary Medicine  
Virginia Tech  
Blacksburg, Va. 24061

*An Equal Opportunity/Affirmative Action Employer*

The University of Michigan Medical School, Department of Physical Medicine and Rehabilitation, has a **FACULTY POSITION** at the instructor through assistant professor level available 1 July 1981. Board-certified psychiatrist with 3 to 5 years of experience with the severely disabled. Reply to: **Box 250, SCIENCE**. Code 2410. *A nondiscriminatory, Affirmative Action Employer.*

The University of Michigan Medical School. One position at **INSTRUCTOR TO PROFESSOR** level, 1 January 1981, in the Department of Anesthesiology. Board-certified or -eligible anesthesiologist with Michigan licensure. Research, clinical, and didactic experience. Reply to: **Box 251, SCIENCE**. Code 23HO. *A nondiscriminatory, Affirmative Action Employer.*

The University of Michigan Medical School, Department of Radiology, has two positions available immediately for **INSTRUCTOR THROUGH PROFESSOR**. Applicant must be Board-eligible or Board-certified radiologist, have 2 years of previous training in neuroradiology, and be eligible for or senior member of American Society of Neuroradiology. Entering level commensurate with qualifications and experience. The physician will take part in the program of patient care, teaching, and research carried on in the Department of Radiology, Neuroradiology Division. He or she will supervise the activities of the residents and aid in teaching residents and medical students. Reply to: **Box 252, SCIENCE**. Codes 15DO, 38HO. *A nondiscriminatory, Affirmative Action Employer.*

The University of Michigan Medical School, Department of Radiology, has a position available immediately for **INSTRUCTOR THROUGH PROFESSOR**. Applicant must be Board-eligible or Board-certified. Entering level commensurate with qualifications and experience. The physician will take part in the program of patient care, teaching, and research carried on in the Department of Radiology, Division of Radiation Therapy at Wayne County General Hospital. He or she will supervise the activities of the residents and aid in teaching residents and medical students. Reply to: **Box 253, SCIENCE**. Code 55HO. *A nondiscriminatory, Affirmative Action Employer.*

# PHARMACOLOGISTS

Last Fall we opened an expanded Pharmaceutical Research Center, doubling our capacity to discover potentially valuable ethicals. We are the U.S. subsidiary of ICI Ltd (UK) whose research introduced the first beta blocker, clofibrate, halothane, tamoxifen citrate, and chlorhexidine. Our STUART Division is the manufacturing and marketing arm for discoveries which promise to place us in a leading position among research-intensive drug firms in the U.S. Manpower needs for now and early 1981 include:

## Gastrointestinal

Positions at MS and BS level of training in Biology, Pharmacology, Biochemistry, or Physiology, with research experience in a GI or CV laboratory. Should demonstrate competence in isolated tissue work, enzyme assays, and gastric secretion. Strong foundation in Chemistry desirable.

## CNS

## Cell Culture/Electrophysiology

To determine the locus and nature of the biochemical lesion(s) in schizophrenia, opening for neurophysiologist experienced in electro-chemical stimulation of, and intracellular recording from, nerve cells maintained in long-term culture. Two year post-doctoral appointment.

## Renal

Positions at MS and BS level of training in Renal or Cardiovascular Physiology, Pharmacology, or Biochemistry to join active program seeking novel diuretics. Research competence should relate to evaluation of diuretic and/or anti-hypertensive agents.

## Anti-Arthritic/ Cell Culture

Position at MS or BS level of training in biological science with research competence in chondrocyte and synovial cell culture or related tissue/cell culture techniques.

## Neurochemistry

Position for MS or BS in Biology with a major in Biochemistry. Strong background in organic and analytical chemistry with a basic knowledge of Pharmacology is highly desirable. To work on receptor binding concepts and kinetics toward an understanding of the mechanism of drug action.

Ability to interface with medicinal chemists, related biologists, and information scientists is inherent in all these positions.

Campus setting, 25 miles south of Philadelphia, within walking distance or short commute of choice residential communities. Competitive salaries/benefits include deferred tax-sheltered investment program. Please submit detailed CV in confidence stating position applied for and salary expectations. Principals only.

C.T. Brodigan, Employee Relations



**ICI Americas Inc.**

Wilmington, Delaware 19897

An Equal Opportunity Employer M/F

## DIRECTOR NATIONAL CENTER FOR ANTIBIOTICS ANALYSIS

**SALARY: \$47,889 to \$50,112  
(SENIOR EXECUTIVE  
SERVICE)**

The Food and Drug Administration's Bureau of Drugs has a permanent civil service or Public Health Service Commissioned Corps position available for the Director, National Center for Antibiotics Analysis in Washington, D.C. Responsibilities involve serving as key adviser and directing a multidisciplinary staff of scientific and professional personnel engaged in broad research and testing programs and activities related to antibiotic drugs.

This is an exciting and challenging opportunity for an individual who has professional experience in directing broad scientific programs; significant research accomplishments in drug technology; ability to deal effectively with high level governmental officials, the scientific/academic communities, national/international organizations, regulated industry representatives and others; and the ability to implement equal employment opportunity programs. It is desirable that applicants have a doctorate in microbiology, chemistry, biology, or a closely related physical, biological, or health science, and be recognized internationally as an authority in the field of pharmaceutical science.

An application for federal employment (SF-171) should be sent to: **DIVISION OF PERSONNEL MANAGEMENT (HFA-440), Food and Drug Administration, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857.** For further information, please telephone: Jim Keady, collect, on 301-443-3634. To ensure full consideration, applications should be received by 1 December 1980.

This position may also be filled by current commissioned officers of the U.S. Public Health Service, or by former officers willing to rejoin the Corps.

*An Equal Opportunity Employer*

## VACANCY DIRECTOR, DIVISION OF PATHOLOGY BUREAU OF FOODS FOOD AND DRUG ADMINISTRATION

**SALARY: \$47,889 to \$50,112  
(SENIOR EXECUTIVE SERVICE)  
Physicians are eligible for a comparability  
allowance up to \$10,000 per year**

The Food and Drug Administration's (FDA) Bureau of Foods has a position available for Director, Division of Pathology. The director provides executive direction and scientific leadership through subordinate program managers to a work force consisting of experts in anatomical pathology, histopathology, and electron microscopy. He/she serves as the agency's specialist and spokesperson in the area of animal pathology as it relates to the safety of chemicals in food products subject to regulation by FDA.

This is an exciting and challenging opportunity for an individual who has the ability to extrapolate pathological data to human disease; organize and express thoughts orally; attract and retain scientists; plan, organize, and direct research studies; and implement equal employment opportunity programs. It is desirable that candidates have experience in evaluating toxicological compounds.

Curriculum vitae and a Personal Qualification Statement, SF-171, should be sent to: **DIVISION OF PERSONNEL MANAGEMENT (HFA-440), Food and Drug Administration, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857.** For further information, please telephone: Jeylene Wood, collect, on 301-443-4210. To ensure full consideration, applications should be received by 15 December 1980.

This position may also be filled by current commissioned officers of the U.S. Public Health Service or by former commissioned officers willing to rejoin the Corps.

*An Equal Opportunity Employer*



## POSITIONS OPEN

### ENDOCRINE/REPRODUCTIVE BIOLOGY

The Worcester Foundation has initiated a major recruitment drive to attract talented investigators of all ranks in the field of endocrine/reproductive biology. Special considerations will be given to those using molecular, cellular, and genetic approaches which could complement and expand current areas of research at the Worcester Foundation.

These areas include:

- 1) Prostaglandins,
- 2) Biology of fertilization and early embryogenesis,
- 3) Hormone receptors and mechanism of hormone action,
- 4) Hormones and cancer, and
- 5) Neuroendocrinology.

Researchers pursuing vigorous independent programs in these and related areas are encouraged to apply. Candidates appointed in endocrine/reproductive biology will have the opportunity to interact with other programs in cell biology and neurobiology.

Applicants should send, in duplicate, their curriculum vitae, a summary of research interests, and at least three references to:

**Chairman, Endocrine/Reproductive  
Search Committee  
c/o Personnel Office  
Worcester Foundation for Experimental Biology  
222 Maple Avenue  
Shrewsbury, Mass. 01545**

*An Equal Opportunity/Affirmative Action Employer*

**ENVIRONMENTAL STUDIES.** Oberlin College seeks a person to teach and direct research on environmental and natural resource issues from the perspective of one or more of the social sciences. Will include: teaching undergraduate courses on technology, society, and environment; assisting the director in program development; engaging in collaborative research with students and faculty. Ph.D., J.D., or other appropriate degree completed or expected by 1 September 1981. Noncontinuing position, beginning 1 July 1981 for term of 3 years, renewable for two additional years, at rank of instructor, assistant, or associate professor. May involve joint appointment in another department or program. Send letter, résumé, transcripts, and three reference letters to: **David A. Egloff, Director, Environmental Studies, Rice, Oberlin College, Oberlin, Ohio 44074**, by 5 December 1980. *Equal Opportunity Employer.*

### FACULTY POSITIONS IN ANATOMY

The Department of Anatomy at the Uniformed Services University of the Health Sciences (USUHS) invites applications for two positions at the assistant or associate professor level. Primary teaching responsibility for one position will be in **microscopic anatomy** and the other will be in **gross anatomy**. The department has well-established research programs in neurobiology and preferential consideration will be given to applicants with research interest outside this area. Applications should be received prior to 1 January 1981. Interested individuals should send applications with a statement of research interest, curriculum vitae, and three letters of recommendation to:

**Director, Personnel/Manpower  
Uniformed Services University of the Health Sciences  
4301 Jones Bridge Road  
Bethesda, Maryland 20014**

*The USUHS is an Equal Opportunity/Affirmative Action Employer.*

**THE AUSTRALIAN NATIONAL UNIVERSITY** invites applications for appointment as **LECTURER/SENIOR LECTURER IN ECONOMIC GEOLOGY**, in the Faculty of Science. No particular area of economic geology is specified, though the appointee will be responsible for teaching courses in both metallic and nonmetallic mineral deposits. A candidate who has had experience in industry or a government organization, as well as tertiary teaching, would be preferred. The appointee will be expected to take up duty by 1 February 1981 or as soon as possible thereafter. Salary range—lecturer: \$17,739 to \$23,303; senior lecturer: \$23,801 to \$27,740 per annum, Australian currency. Present exchange rate: A\$1:U.S.\$1.16. Appointment: 4 years with possible reappointment after review to age 65. Superannuation, reasonable appointment expenses, housing assistance. Applications close with: **The Registrar, P.O. Box 4, Canberra, ACT 2600, Australia**, on 14 November 1980.

## POSITIONS OPEN

### FACULTY POSITIONS

Applications are invited for two appointments at the assistant professor level. Under exceptional circumstances, appointments at higher ranks will be considered. Candidates should have a Ph.D. with postdoctoral training and research experience in one of the following areas: (i) cell structure and cellular development (with preference for membranes, cytoskeletal components, organelles mediating intracellular transport, and so forth); (ii) structural biology (with preference for the applications of modern structural techniques, such as EM with computer-assisted image reconstruction, and so forth, to cellular problems); or (iii) protein-nucleic acid interactions (with preference for nucleic acid enzymology). Faculty members are expected to develop strong, independent research programs in addition to instructing undergraduate and graduate students in the areas of biochemistry, biophysics, or cell biology. These two positions will become available during summer 1981. Send curriculum vitae and a concise description of proposed research program (no more than three pages) to: **Dr. Chien Ho, Department of Biological Sciences, 4400 Fifth Avenue, Pittsburgh, Pa. 15213**. Applicants should arrange to have three letters of recommendation sent directly by the referees to the above address. Review of applications will begin on 1 December 1980. *Carnegie-Mellon University is an Equal Opportunity/Affirmative Action Employer and encourages women and members of minority groups to apply for these positions.*

**FACULTY POSITION** (nontenure-track) at Roosevelt University. The Department of Biology requires an assistant professor for the period January 1981 to August 1983 to teach in and coordinate the introductory biology courses. Research experience in electron microscopy would be an asset. Submit curriculum vitae with statement of teaching and research interests and have three letters of reference sent by 15 November 1980 to:

**Dr. J. Green  
Department of Biology  
Roosevelt University  
430 South Michigan Avenue  
Chicago, Ill. 60605**

**TWO FACULTY POSITIONS.** Department of Biochemistry and Pharmacology, Tufts University Schools of Medicine, Veterinary Medicine and Dental Medicine, Boston, Mass. 02111. Responsibilities include pursuit of fundamental research and participation in the teaching program of the department. Candidates should have a solid record of research accomplishment and the potential of developing an independent research program. Please apply to: **Dr. Henry G. Mautner, Chairman, Tufts University is an Equal Opportunity/Affirmative Action Employer.**

**HEAD, DEPARTMENT OF FORESTRY, FISHERIES AND WILDLIFE AND STATE FORESTER.** Responsibility for administration and leadership of departmental programs in teaching, research, and extension and Nebraska Forest Service. Requires Ph.D. in forestry, fisheries and/or wildlife, or a closely related field preferred. Experience in forestry highly desirable. Apply by 15 November to: **William R. Lovett, Chairman, Search Committee, 221 Agricultural Hall, University of Nebraska-Lincoln, Lincoln, Nebraska 68583. Telephone: 402-472-2944. Affirmative Action/Equal Opportunity Employer.**

**IMMUNOLOGIST.** Postdoctoral position available immediately for in vivo and in vitro studies of the immunologically active hormone-like peptide, tuftsin. Background in cellular or tumor immunology preferred. Send résumé and the names of three references to: **Dr. Kenji Nishioka, Surgical Research Laboratory, BF-426, The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute, Houston, Texas 77030. An Equal Opportunity Employer.**

**JUNIOR FACULTY**, tenure-track positions in neurobiology, Marine Biomedical Institute, University of Texas Medical Branch, Galveston. Investigators with postdoctoral experience to establish independent and collaborative research programs in areas ranging from molecular membrane mechanisms to integrative neurobiology. Send curriculum vitae and three letters of recommendation to: **Dr. Harold Pinkser, Chairman, Search Committee, Marine Biomedical Institute, 200 University Boulevard, Galveston, Texas 77550. The University of Texas Medical Branch is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### MEDICAL GENETICIST

Faculty position available: University of California, Irvine, Department of Pediatrics. Applicant must have M.D. or M.D./Ph.D. degree(s), have completed a fellowship in medical genetics, and have demonstrated research potential for an academic career. The level of appointment and salary will be commensurate with qualifications and experience. Interested individuals are requested to send curriculum vitae and names/addresses of three references to: **Beverly C. Morgan, M.D., Professor and Chair, or Kenneth W. Dumars, M.D., Professor and Chief, Division of Developmental Disabilities and Clinical Genetics, Department of Pediatrics, University of California Irvine Medical Center, 101 City Drive South, Orange, Calif. 92668. An Affirmative Action Employer.** Closing date: 15 December 1980.

**MEDICAL MICROBIOLOGY/ELECTRON MICROSCOPY**, assistant professor, tenure-track position beginning September 1981. Teach courses in medical bacteriology and electron microscopy. Ph.D. in microbiology with formal training in medical microbiology required. Preference to applicants with demonstrated teaching ability in medical microbiology and electron microscopy. Send curriculum vitae, transcripts, and three letters of recommendation by 15 January 1981 to: **W. L. Ezell, Department of Biological Sciences, St. Cloud State University, St. Cloud, Minnesota 56301. An Equal Opportunity/Affirmative Action Employer.**

### MEMBRANE BIOLOGIST

Postdoctoral position available immediately for research on membrane characterization of erythrocytes infected with malarial parasites. Experience with biochemical/immunological/electron microscopic techniques essential.

Send curriculum vitae and three letters of recommendation to: **Dr. Irwin W. Sherman, Department of Biology, University of California, Riverside, Calif. 92521.**

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

**MICROBIAL PHYSIOLOGIST**—Applicants with outstanding teaching and research potential are sought for a faculty position effective as early as 1 January 1981. Teaching responsibilities lie in the area of microbial physiology and introductory microbiology. Postdoctoral experience preferred. Send résumé and three letters of reference by 1 December to: **Dr. Morgan Brent, Chair, Micro Search Committee, Biological Sciences, Bowling Green State University, Bowling Green, Ohio 43403. An Affirmative Action/Equal Opportunity Employer.**

### MOLECULAR BIOLOGY MICHIGAN STATE UNIVERSITY

The Department of Biochemistry, Michigan State University (MSU), invites applications for several tenure-track faculty positions, one of which will be at a senior level. We encourage applications from candidates with strong credentials in areas of molecular biology such as regulation of gene expression and recombinant DNA technology. All appointments will be made at competitive salary levels and will include laboratory space for major size programs. Evidence of ability to teach undergraduate, graduate, and professional courses will be evaluated. Inquiries regarding the senior level position should be directed to: **Chairman, Department of Biochemistry**. For full consideration at the assistant professor level, send curriculum vitae, reprints, in press manuscripts, a statement of research and teaching interests, and written recommendations from three references by 1 January 1981 to: **Chairperson of Molecular Biology Search Committee, Department of Biochemistry, Michigan State University, East Lansing, Michigan 48824.**

*MSU is an Affirmative Action/Equal Opportunity Institution.*

**MOLECULAR BIOLOGIST** (postdoctoral research associate) to study transcriptional and translational regulation of the vitamin D dependent calcium-binding protein. Recent graduate preferred. Salary: \$12,000 to \$14,000. Send curriculum vitae, bibliography, and names of three references to: **Dr. Felix Bronner, Department of Oral Biology, University of Connecticut Health Center, Farmington, Conn. 06032. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**NEUROPHYSIOLOGIST.** The Yerkes Primate Center invites applications for a research position in the Division of Neurobiology at the assistant or beginning associate research professor level with the opportunity for an adjunct appointment in a university academic department. Ph.D. required; postdoctoral experience expected; good overall background in neurosciences desirable. Applicants are expected to conduct independent and collaborative neurophysiologic research on the motor and/or somatosensory system of primates. The Center is committed to research in neurobiology, behavior, reproductive biology, and pathology in a wide variety of primates, including the great apes. Initial basic support is provided; however, researchers are expected to acquire grant support for their projects. Qualified applicants should send a description of future research goals, relevant reprints, curriculum vitae, and names of three references to: **Johannes Tigges, Ph.D., Chief, Division of Neurobiology, Yerkes Regional Primate Research Center, Emory University, Atlanta, Georgia 30322.** *Affirmative Action/Equal Opportunity Employer.*

**PHARMACOLOGIST** (Marshall University School of Medicine). Tenure-track faculty position involving medical/graduate student teaching. Salary commensurate with qualifications and experience. Minimum qualifications: candidates should have Ph.D. and/or M.D. degree and postdoctoral experience. Training and experience in drug metabolism/pharmacokinetics, cardiovascular, or CNS preferred. Application deadline: 15 December 1980. Apply to: **Donald S. Robinson, M.D., Professor and Chairman, Department of Pharmacology and Medicine, Marshall University, Huntington, W.Va. 25701.** *An Equal Opportunity Employer.*

**Pharmacology**—Postdoctoral and faculty positions at assistant/associate professor levels are now available. Applicants with a doctoral degree and committed to medical teaching with research interest in neuropharmacology, cardiovascular pharmacology, or toxicology will be given preference. Send curriculum vitae, three references, and statement of research and career goals to: **Harbans Lal, Chairman, Department of Pharmacology, Texas College of Osteopathic Medicine, Camp Bowie at Montgomery, Fort Worth, Texas 76107.** *Equal Opportunity Employer.*

### CHESAPEAKE BAY INSTITUTE THE JOHNS HOPKINS UNIVERSITY FOUR POSITIONS

Two **PHYSICAL OCEANOGRAPHERS**, at least one of which will be at a senior or intermediate level. Successful applicants will be expected to assume a leading role in the expansion of the Institute's Physical Oceanography Program. Applicants should have a Ph.D. or equivalent and preference will be given to those with theoretical or descriptive interests in continental shelf or estuarine circulation dynamics. Interdisciplinary studies are encouraged. Rank and salary commensurate with qualifications.

Two **BIOLOGICAL OCEANOGRAPHER/MARINE BIOLOGISTS** for Ph.D.'s (or equivalent) interested in estuarine or coastal ocean research in any of the following areas: plankton physiology, microbiology, heterotrophy, or benthic studies. Rank and salary for both positions are negotiable and one position may be at the senior level.

The Chesapeake Bay Institute, now in its 31st year as a research division of The Johns Hopkins University, has recently moved to a waterfront facility about 15 miles south of Annapolis, Md. The Institute operates a fleet of research vessels and is a member of the UNOLS organization. Applications will be accepted until all positions are filled. Submit résumé, statement of interests including bibliography, and names of three professional references to: **Search Committee, Chesapeake Bay Institute, 4800 Atwell Road, Shady Side, Maryland, 20867.** *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

**PHYSIOLOGIST:** Ph.D. or M.D. assistant professor to teach medical and graduate student physiology; research publications and competence in systems and control theory approach to analysis of physiological processes. A strong background in biological sciences is required. Postdoctoral training a prerequisite. Curriculum vitae and three letters of recommendation required no later than 1 January 1981. Send application materials to: **Chairperson, Department of Physiology, Upstate Medical Center, State University of New York, 766 Irving Avenue, Syracuse, New York 13210.**

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

### PLANT CELL BIOLOGIST

The Department of Developmental and Cell Biology, University of California, Irvine, is seeking a plant cell biologist at the assistant professor level who specializes in plant somatic cell genetics, plant molecular genetics, or plant cell morphogenesis. Preference will be given to an individual working on higher plants. The candidate is expected to conduct high-quality research and teach at both graduate and undergraduate levels. At least 1 year of postdoctoral experience is desired.

*An Affirmative Action/Equal Opportunity Employer.*

Address all correspondence to:

**Chairman, Plant Cell Biology Search Committee  
Department of Developmental and Cell Biology  
University of California, Irvine  
Irvine, Calif. 92717**

## POSITIONS OPEN

**ORGANIC CHEMIST/BIOCHEMIST** required for joint university/industry interactive program. Initially at a research associate level, this could become a permanent position. Individuals should have a Ph.D. and a strong background in synthesis, preferably in oligonucleotides. The position is open in the near future. Salary: \$18,000 plus, depending on experience. Send inquiries to: **Professor A. G. Walton, Department of Macromolecular Science, Case Western Reserve University, University Circle, Cleveland, Ohio 44106.** *An Equal Opportunity Employer.*

Columbia University—Institute for Reproductive Sciences: **POSTDOCTORAL ASSOCIATE POSITION** available immediately, for research in primate reproductive neuroendocrinology. Contact: **Dr. M. Ferin, College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032.**

*An Equal Opportunity/Affirmative Action Institution*

## R&D Pharmaceuticals



American Critical Care, the pharmaceutical division of American Hospital Supply Corporation, continues to expand in R&D.

## Research Investigator

Required for this position are a Ph.D. in cardiovascular physiology or pharmacology and a minimum of 0-2 years postdoctoral experience. This individual will join a team engaged in the discovery and evaluation of new therapeutic agents for use in the treatment of arrhythmias and myocardio ischemia/infarction. The ideal candidate will possess scientific expertise in the area of myocardio ischemia/infarction, but also be interested in the field of arrhythmia.

## Research Associate/ Assistant

This position requires a BS/MS in medical/biological sciences or equivalent experience in pharmacological research. The ideal candidate will also have at least 1-3 years experience in industrial pharmacology, preferably in the cardiovascular area. This individual will aid senior scientists in the design, development and use of in vitro/in vivo testing procedures directed toward the discovery and evaluation of cardiovascular drugs.

Our R&D area is responsible for the development of sophisticated critical care medicine with emphasis on cardiovascular. Our state-of-the-art lab facilities are well funded and continuously expanding. If you're qualified for such a position and are looking for a healthy, progressive work environment please send resume to:

Personnel Manager R&D

**American Critical Care**

A division of  
American Hospital Supply Corporation  
1600 Waukegan Road  
McGaw Park IL USA 60085

We are an equal opportunity employer m/f



## POSITIONS OPEN

### IMMUNOCHEMISTS

Sigma Chemical Company is seeking **immunologists/immunochemists** for employment within its rapidly growing Immunochemicals Department. Emphasis being placed on development of immunodiagnostic test kits and immunochemicals for research use.

Applicants should have proven experience in one or more of the following areas: enzyme immunoassays, immunofluorescence, immunogen purification, antibody production, conjugation techniques, and specific antibody isolation.

Successful candidates will participate in a challenging and exciting product-oriented research and development program where individual creativity is strongly encouraged.

Confidentiality assured. Address résumés to personal attention of: **Ron Wolfe, Ph.D., Immunochemicals Department, Sigma Chemical Company, P.O. Box 14508, St. Louis, Mo. 63178. Equal Opportunity Employer, M/F.**

### NEUROBIOLOGIST

The C. V. Whitney Laboratory for Experimental Marine Biology and Medicine of the University of Florida focuses on cell biology, physiology, and pharmacology of marine organisms. Applications are being accepted for a tenure-earning, full-time (12-month) research professorship at the assistant or associate level. The broad area of interest is the mechanisms underlying the effects of drugs, hormones, toxins, or transmitters on excitable or secretory cells. The applicant should be competent with electrophysiological techniques. Graduate training in neurobiology is required; postdoctoral experience is preferred. The appointee will be expected to set up and carry on an independent research program and to interact productively with other members of the laboratory. Initial funding will be provided, but the research program should eventually be grant-supported. All members of the laboratory have joint appointments in an academic department in one of the colleges at the University of Florida. Applicants should send a short statement of research goals, curriculum vitae, recent reprints, and the names of three references to: **Dr. Barry W. Ache, Whitney Marine Laboratory, Route 1, Box 121, St. Augustine, Fla. 32084.**

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

The Laboratory of Nuclear Studies at Cornell University has an opening for a

### PHYSICIST/ELECTRICAL ENGINEER RESEARCH ASSOCIATE

to participate in MICROWAVE SUPER-CONDUCTIVITY R/D directed at application to high-energy electron accelerators. Ph.D. in physics or engineering required. Some experience in low-temperature and microwave work highly desirable but not necessary. Two-year initial appointment with long-term possibilities. Salary commensurate with experience. Apply by letter to:

**M. Tigner  
Wilson Laboratory  
Cornell University  
Ithaca, New York 14853**

*Cornell is an Equal Opportunity Employer.*

**POSTDOCTORAL CANCER BIOLOGY RESEARCH POSITIONS.** Two positions are immediately available to work on the relationship of prostacyclin and thromboxane  $A_2$  to tumor cell metastasis. Demonstrated skill in biochemistry or cell biology necessary. Experience in prostaglandin biochemistry or platelet research desirable. Appointment for 2 to 3 years at salary range of \$13,000 to \$15,500 and fringe benefits. Send curriculum vitae and three letters of recommendation to: **Dr. Kenneth V. Honn, Departments of Radiation Oncology and Biological Sciences, Wayne State University, 210 Science Hall, Detroit, Michigan 48202.**

*An Equal Opportunity/Affirmative Action Employer*

### POSTDOCTORAL FELLOWS, CARDIOVASCULAR

Fellowships (\$13,800 and up) presently available in cardiovascular pharmacology. Research areas include membrane biology and biophysics, study of subcellular organelles, hormone receptors, adult and developmental electrophysiology and electropharmacology, vascular muscle contraction,  $Ca^{++}$ - $Mg^{++}$ -ATPase mechanism, ionophores, and drugs in hemodynamic studies. Active cardiovascular group. Write: **Dr. A. L. Bassett, Director of Training Grant, Department of Pharmacology, University of Miami School of Medicine, P.O. Box 016189, Miami, Florida 33101. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**PLANT GENETICIST.** Career federal service. Incumbent to establish independent research program on wheat genetics directed toward development of improved disease and insect-resistant parental lines adapted to the Hard Red Winter Wheat Region. The position is located at Kansas State University Campus, Manhattan, Kansas. GS-12/13/14, salary based on qualifications and experience. For applications: **J. Brooks, USDA-SEA-AR-B22, 2000 West Pioneer Parkway, Peoria, Ill. 61615. Telephone: 309-671-7319. An Equal Opportunity Employer.**

**POSTDOCTORAL APPOINTMENTS—Argonne National Laboratory.** The Chemistry Division of Argonne National Laboratory currently has postdoctoral positions available for medicinal chemists and radiochemists in the Nuclear Medical Research Program. Research is directed to the design, synthesis, and testing of new radiopharmaceuticals for in vivo measurements of neuron functions in the central nervous system and in the myocardial system. Applicants must have received their Ph.D.'s within the past 3 years. Send résumé and three letters of recommendation to: **Walter McFall, Box CHEM, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, Ill. 60439. An Affirmative Action/Equal Opportunity Employer. Women, minority, the handicapped, and veterans urged to apply.**

**POSTDOCTORAL FELLOW—Microbiology Ph.D.** to study glycoprotein-bacterial interactions. Experience in isotopic binding assays and/or bacterial antigen purification desirable. Salary: \$15,000 to \$18,000, dependent upon experience. Send résumé to: **Dr. M. J. Levine, 322 Cary Hall, Department of Oral Biology, State University of New York at Buffalo, Buffalo, New York 14214. Equal Opportunity Employer.**

Position available for **POSTDOCTORAL FELLOW** with experience in cell culture and its retrovirus molecular biology. Résumé and names of three references should be submitted to: **Director, Center for Experimental Cell Biology, THE MOUNT SINAI MEDICAL CENTER, One Gustave L. Levy Place, New York, N.Y. 10029. An Equal Opportunity Employer, M/F.**

**POSTDOCTORAL POSITION** available January 1981, for research on mechanism of nucleoside diphosphate sugar: NAD 2-glycosyl oxidoreductase; its role in metabolism of ethanolamine- and galactofuranosyl-containing glycopeptide of *Penicillium*. Applicant should have a Ph.D. degree in biochemistry or chemistry; should have experience with proteins and enzymes. Desired experience in C 13 NMR. Starting salary: \$11,000 to \$12,500 with 1 or 2 years of support available. Interested candidates should send résumé and names of three references to: **Dr. John E. Gander, Department of Biochemistry, University of Minnesota, 1479 Gortner Avenue, St. Paul, Minn. 55108. The University of Minnesota is an Equal Opportunity/Affirmative Action Employer and Educator, and specifically solicits applications from women and minorities.**

**POSTDOCTORAL POSITION** available to study DNA replication and chromosome structure in *Physarum polycephalum*. Applicants with experience in molecular biology or biochemistry of nucleic acids preferred. Submit curriculum vitae (indication of sex and ethnicity for Affirmative Action statistical purposes is requested but not required) with publications list and letter of recommendation before 15 November 1980 to:

**Dr. Robert C. Marsh  
Programs in Biology  
The University of Texas at Dallas  
P.O. Box 688  
Richardson, Texas 75080**

*The University of Texas at Dallas is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

Several **POSTDOCTORAL POSITIONS** are available in the study of chromatin structure, transcription and replication, and the regulation of histone gene expression with Doctors J. Gottesfeld, R. L. Seale, and J. Siegel. Applicants please indicate preference and send curriculum vitae with names of three referees to: **Dr. Ronald L. Seale, Department of Cellular Biology, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, Calif. 92037.**

**POSTDOCTORAL POSITION** available to study the mechanism of channel action of colicin EI in vivo and in reconstituted membrane systems. Strong interdisciplinary background desirable in biochemistry and biophysics. Send curriculum vitae, description of research experience, and names of three references to: **W. A. Cramer, Department of Biological Science, Purdue University, West Lafayette, Indiana 47907. Purdue is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN VISUAL SCIENCES.** NIH traineeship available immediately to study immunological and biochemical aspects of ocular disease. Interdisciplinary program in department with strong commitment to clinical and basic research. Biochemical or immunological background preferred. Send curriculum vitae and names of three references to: **Dr. Walter L. Henley, Department of Ophthalmology, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, N.Y. 10029.**

**POSTDOCTORAL POSITION** (assistant specialist) available 1 January 1981 to study virus-membrane interactions involved in aphid transmission of plant viruses. Background in electron microscopy, tissue culturing, or virology required. Position funded for 1 year with probable renewal. Salary: \$17,500 per year. Send résumé and names of four references to: **Dr. F. E. Gildow, Department of Plant Pathology, 147 Hilgard Hall, University of California, Berkeley, Calif. 94720, by 1 December 1980. The University of California is an Affirmative Action Employer.**

**POSTDOCTORAL POSITION.** Chemical and biochemical studies of nitrogenase including energetics, kinetics, and spectroscopy. Seeking biochemist or chemist with some biochemical background. Position available immediately. Send résumé and two references to: **Dr. Gerald D. Watt, C. F. Kettering Research Laboratory, Yellow Springs, Ohio 45387.**

**POSTDOCTORAL POSITION.** Starting January to April 1981. Studies on the molecular basis of DNA repair and characterization of repair enzymes from *D. discoideum*. DNA cloning possibilities. Strong background in enzyme and/or DNA techniques desirable. Competitive stipend. Curriculum vitae and names of three references to: **Dr. R. A. Deering, Molecular and Cell Biology, 618 Mueller, The Pennsylvania State University, University Park, Pa. 16802. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** wanted for a project involving protein chemistry or differentiating epidermis. Should be familiar with biochemical and immunochemical techniques for separation, isolation, and identification of proteins. Knowledge of cell culture techniques useful. Salary: \$15,000 to \$18,000, depending on experience. Position available immediately. Applications and two letters of reference should be sent to:

**Dr. Albert Farbman  
Department of Anatomy  
Northwestern University Medical School  
303 East Chicago Avenue  
Chicago, Ill. 60611**

*Northwestern University is an Equal Opportunity Employer.*

### POSTDOCTORAL RESEARCH ASSOCIATE

Our developing **DIABETES RESEARCH** group needs a Ph.D. with interest in islet cell dynamics. Experience with or interest in cultured islets preferred. In addition to research activity, some time will be utilized in teaching neuroanatomy to medical and/or allied health students. If you are interested in a challenging position with good career potential, send your curriculum vitae and three references to:

**Dr. Carl R. Morgan, Chairman  
Department of Anatomy  
East Carolina University School of Medicine  
Greenville, North Carolina 27834**

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

### POSTDOCTORAL POSITION IN CELL BIOLOGY

A postdoctoral position is available to study extracellular control of growth, synthesis, and secretion of prostatic binding protein, and polyamine metabolism in normal and tumorigenic prostatic epithelial cells in vitro. Emphasis will be on the role of androgens, nutrients, other hormones, growth factors, and reconstituted extracellular matrices on epithelial cell growth and the above functions.

Candidates must have a Ph.D. or M.D. degree in an area of the life sciences and interest in a career in cell biology. Prior training in techniques of cell culture, immunochemistry, and biochemistry is desirable.

Interested candidates should contact:

**Dr. Wallace L. McKeehan**  
W. Alton Jones Cell Science Center  
Old Barn Road  
Lake Placid, N.Y. 12946

*An Affirmative Action/Equal Opportunity Employer*

**POSTDOCTORAL/RESEARCH ASSOCIATE** position (Ph.D. or master's plus experience) available immediately in cellular/biochemical pharmacology or nucleosides for cancer chemotherapy. Cells in tissue culture will be used to study cellular metabolism of drug and cell cycle phase specificity of drug action, utilizing flow cytometry. Salary: \$13,000 to \$14,500, depending upon experience, renewable for second year. Send curriculum vitae and names of two references to: **L. L. Wotring, College of Pharmacy, University of Michigan, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer.

**POSTDOCTORAL RESEARCH ASSOCIATE** position available 1 February 1981, to aid in the purification and characterization of a *Drosophila* protein. Ph.D. (or equivalent experience) with training in biochemistry, protein purification, and immunological techniques is preferred. Salary up to \$13,500 per year. Send curriculum vitae, reprints, and the names, addresses, and telephone numbers of three references to: **Dr. R. C. Richmond, Department of Biology, Indiana University, Bloomington, Ind. 47405.** Deadline for applications: 1 December 1980. *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS** available for (i) synthetic chemist or medicinal chemist to work on the development of active-site directed reagents to inhibit the polymerization of hemoglobin S, and on the synthesis of polynucleotides; (ii) biochemist to study structure function relationships in hemoglobin and protein nucleic acid systems; and (iii) molecular biologist to study control of gene expression and procaryotic systems and yeast. Salaries: \$15,000 to \$22,000. Send résumé to: **Dr. Joseph A. Walder, Department of Biochemistry, The University of Iowa, Iowa City, Iowa 52242.** *The University of Iowa is an Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH POSITION** in mammalian spinal cord injury or disease. Preference given to Ph.D. or equivalent with experience in neurophysiological techniques and/or electron microscopy. Excellent fringe benefits and salary commensurate with experience. Send curriculum vitae and three letters of reference to: **Dr. Harry G. Goshgarian, Department of Anatomy, Wayne State University School of Medicine, 540 East Canfield Avenue, Detroit, Michigan 48201.** *An Equal Opportunity/Affirmative Action Employer.*

A **POSTDOCTORAL RESEARCH POSITION** is available in the Department of Physiology at University of California, Los Angeles (UCLA). The research is directed at the molecular mechanisms of solute transport across epithelial cells (intestine, choroid plexus, and kidney). Current projects include the study of transport by isolated plasma membrane vesicles and the isolation of transport proteins. Applications are invited from students and fellows with training in molecular biology. The appointment will be for 2 years, and the annual salary will be \$14,000.

Send curriculum vitae and names of references to:

**Professor Ernest M. Wright**  
Department of Physiology  
University of California Medical Center  
Los Angeles, California 90024

*Affirmative Action/Equal Opportunity Employer. Minority and women candidates are encouraged to apply.*

31 OCTOBER 1980

# ENVIRONMENTAL ADVISOR

O.M. Scott & Sons Company, the leading manufacturer of lawn and garden products for consumer and commercial markets, has a career opportunity for an Environmental Advisor located at our modern central Research Center at Corporate Headquarters in Marysville, Ohio (just northwest of Columbus).

You will be responsible for environmental research including compiling all toxicological and environmental data to support EPA pesticide registrations. Position also provides technical evaluation of all human health and environmental concerns related to company business.

We are seeking - MS or Ph.D. in Biological/Life Science with environmentally related training. Ideally, the successful candidate would have had experience in Soil Science and in the use, environmental fate, and toxicological effects of agricultural chemicals. Requires strong written and verbal communication skills.

If you are looking for a career opportunity with a company that offers a competitive salary and comprehensive benefit package in a challenging and growing environment, look to Scotts. Please send your resume with transcripts and salary history to:

**Rosemary L. Smith**  
**O.M. SCOTT & SONS COMPANY**  
333 N. Maple Street  
Marysville, Ohio 43041



An Equal Opportunity Employer, M/F/H



# Toxicologist

## Join new R&D facility of ARCO Chemical Company.

With this key division of Atlantic Richfield, the nation's seventh largest, fully-integrated energy company, you'll focus on projects critical to engineering, chemical products and the environment.

Involvement includes designing protocols, monitoring studies and evaluating data from acute and chronic toxicity investigations.

Ideal candidate will be strong communicator with PhD in Toxicology plus three to five years of industrial toxicology experience and comprehensive knowledge of government regulations.

Position based in pleasant Philadelphia suburb offers excellent salary and a fine benefits package. To learn more, send resume to: **Mr. E. R. Petka, Employee Relations Representative, ARCO Chemical Company, P.O. Box 85, Glenolden, PA 19036.**

**ARCO Chemical Company**



Division of AtlanticRichfieldCompany

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## POSITIONS OPEN

### POSTDOCTORAL RESEARCH POSITION

Position available to work on theoretical modeling of problems in atmospheric and aquatic chemistry. Must have strong background in mathematics and computation and be able to assimilate information from a variety of scientific disciplines. A Ph.D. in chemistry, physics, or related field necessary. Contact: **Professor S. C. Wofsy, Pierce Hall 100A, Division of Applied Sciences, Harvard University, Cambridge, Mass. 02138.** An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL RESEARCH POSITION: SPATIAL VISION.** Available for 2 years beginning 1 January to 1 July 1981. Single-unit studies in extrastriate visual cortices of owl monkey. Applicants with experience in visual system electrophysiology or psychophysics of spatial vision are preferred. Salary commensurate with experience. Send résumé and names of three references to: **Dr. Daniel A. Pollen, Chairman, Division of Neurobiology, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, Phoenix, Arizona 85013.**

### POSTDOCTORAL STAFF ASSOCIATE

Position available November or December for recent Ph.D. in biochemistry or microbiology to work on the mechanism of action of the enzyme hydrogenase and regulation of its activity. Research involves induced synthesis of enzyme, mapping the gene and its transfer, and isolation of modified forms of enzyme from mutant bacterial cells. Applicants should have experience in enzymology and microbial genetics. Salary: \$13,800 annually.

Send curriculum vitae, bibliography, and names of three references to: **Dr. Alvin I. Krasna, Department of Biochemistry, Columbia University, College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032.**

*Columbia University is an Equal Opportunity/Affirmative Action Employer.*

### PROFESSOR AND DIRECTOR SCHOOL OF BIOLOGICAL SCIENCES UNIVERSITY OF KENTUCKY, LEXINGTON

The University of Kentucky College of Arts and Sciences invites applications and nominations for the position of professor and director of the School of Biological Sciences to begin 1 July 1981. Applicants should have a Ph.D. degree in some area of the biological sciences, demonstrated administrative leadership abilities, a commitment to excellence in research and teaching, and a distinguished research record. Experience in obtaining external funding for research and program development is desirable, and the ability to interact effectively with both faculty and students is essential. The school consists of 31 faculty members with diverse interests in biology, and enrolls approximately 700 undergraduate and 65 graduate students. Undergraduate programs are offered with majors in biology, botany, microbiology, and zoology. M.S. and Ph.D. degree programs are offered in biology and microbiology. School faculty also participate in university-wide graduate programs in plant physiology and toxicology. The director will have responsibility for continuing development of academic programs, promoting faculty research, and administration of the school. Nominations and applications should include curriculum vitae and the names of three or more individuals who will provide references on request. Materials should be sent no later than 1 February 1981, to:

**Dr. H. Wyman Dorough  
Professor and Director  
Graduate Center for Toxicology  
University of Kentucky  
Lexington, Ky. 40536**

*Equal Opportunity/Affirmative Action Employer*

**RESEARCH ASSOCIATE** to perform all technical supervisory and administrative duties of diversified clinical and research laboratory. Knowledgeable in the use of radioisotopes, AA spectrophotometer, column chromatography, care of research animals, preparation of chemical solutions and micromethods used in neonatal settings, and so forth. Master's degree in biochemistry or pharmacology/toxicology desired. Salary open. Send résumé to:

**Chief of Neonatology Section  
Department of Pediatrics  
Louisiana State Medical Center  
P.O. Box 33932  
Shreveport, La. 71130**

*An Equal Opportunity Employer*

## POSITIONS OPEN

**POSTDOCTORAL RESEARCHER.** Ph.D. in pharmacology, medicinal chemistry or biochemical pharmacology; experience with radioisotopes, GC, HPLC, and GC/MS; biotransformation studies of centrally active aporphines. Salary up to \$13,000, depending on qualifications. Send résumé and names of three references to: **Dr. R. V. Smith, Drug Dynamics Institute, College of Pharmacy, University of Texas, Austin, Texas 78712.**

**RESEARCH ASSOCIATE**—The Coastal Research Group at the University of Virginia is interested in adding a colleague with specialization in coastal hydrodynamics and sedimentary processes. This research group explores regional-scale relationships between storms and associated inshore processes and shoreline configuration. The position provides an excellent opportunity to work with a diverse faculty in the Department of Environmental Sciences (27 faculty). Ph.D. required and strong analytical background essential. Degree should be in geophysics, geology, ocean and coastal engineering, or coastal climatology. Starting salary: \$17,500. Send résumé to:

**Dr. Robert Dolan  
Clark Hall 101  
Department of Environmental Sciences  
University of Virginia  
Charlottesville, Virginia 22903**

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

**RESEARCH ASSOCIATE** position available immediately for immunologic investigations in autoimmune hematologic disorders. Research areas include antibody assays, radioimmunoassays, studies in macrophage functions. Experience in platelet or macrophage immunology and cell cultures preferred but not a prerequisite. Salary: \$14,000 to \$20,000. Send résumé and three references to: **Dr. Y. Ahn, Center for Blood Diseases, Department of Medicine, R-36, University of Miami, P.O. Box 016760, Miami, Florida 33101.**

**RESEARCH ASSOCIATE**, in complement immunology and cellular immunology. Junior position, annual salary of \$14,000, requiring independent research on structure and function of membrane complement receptors. Ph.D. in immunology and 1 to 2 years of postdoctoral training required. Previous experience in complement chemistry and cell membrane receptor isolation is desirable. Send applications to: **Dr. John C. Parker, Acting Chairman, Department of Medicine, University of North Carolina School of Medicine, 3041 Old Clinic Building, 226H, Chapel Hill, N.C. 27514.** An Equal Opportunity/Affirmative Action Employer.

### RESPIRATORY PHYSIOLOGIST DEPARTMENT OF PHYSIOLOGY UNIVERSITY OF ALABAMA IN BIRMINGHAM

A tenured or tenure-track position at the **assistant, associate, or full professor** level is available to applicants in any area of respiratory physiology. Liberal start-up money and salary are available. The successful applicant will be expected to participate in the teaching of medical and dental students, to train graduate students, and to develop an independent research program. The position requires a doctoral degree and postdoctoral training. Send curriculum vitae, a summary of future research plans, and names of three references by 15 November 1980 to:

**Professor J. D. Neill  
Department of Physiology and Biophysics  
University of Alabama in Birmingham  
Birmingham, Ala. 35294**

*The University of Alabama in Birmingham is an Equal Opportunity/Affirmative Action Employer.*

### TECHNICAL ASSOCIATE (ELECTRON MICROSCOPIST) ROCHESTER, NEW YORK

A position is open for an experienced transmission electron microscopist at the University of Rochester. The individual will be expected to train users on a Zeiss 109 and to have responsibility for routine maintenance. Competence in nucleic acid spreading techniques is required; experience in tissue embedding and sectioning is desired. Half-time (20 hours per week to start); the possibility of full time exists as need arises. Interested persons should write to: **Professor Joanna Olmsted, Department of Biology, University of Rochester, Rochester, N.Y. 14627.**

*The University of Rochester is an Equal Opportunity Employer.*

## POSITIONS OPEN

### SENIOR RESEARCH FELLOW

Position available in immunology laboratory for an individual with at least 4 years of postdoctoral experience in amino acid sequence determination. Instrumentation skill essential. Experience developing protein sequencers and DNA synthesizers desirable. Requires broad knowledge of cell biology, protein chemistry, electronics, and instrumentation design. Position available immediately. A résumé should be sent to: **Lee Hood, Division of Biology 156-29, California Institute of Technology, Pasadena, Calif. 91125.** An Equal Opportunity Employer.

Applications invited for **TEACHING POSITIONS** in physiology at St. George's University School of Medicine in Grenada, West Indies. Teaching experience in endocrinology or neurophysiology is necessary. Applications close early November 1980. Position starts January 1981. Submit applications, including curriculum vitae and three references, to: **Vice Chancellor, St. George's University, Grenada, West Indies.**

### TEACHING POSITIONS IN YARMOUK UNIVERSITY IRBID, JORDAN

The Faculty of Science and Arts at Yarmouk University invites applications for teaching posts in the fields of:

#### MICROBIOLOGY, ECOLOGY, PLANT PHYSIOLOGY

Applicants must hold a Ph.D. Teach in English. Salary, dependent on experience, equivalent \$16,000 to \$28,000, convertible currency. Jordanian income tax nominal. Good fringe benefits. Complete dossiers to be sent to:

**The Dean  
Faculty of Science and Arts  
Yarmouk University  
Irbid, Jordan**

### VICE PRESIDENT-ACADEMIC AND PROVOST WASHINGTON STATE UNIVERSITY

The Vice President-Academic and Provost is the chief academic officer of this land-grant university. This person has top level participation and responsibility in the management of the institution including overall supervision and coordination of academic and support programs as well as development and implementation of the budget.

The position demands a person with strong academic credentials, demonstrated administrative abilities, a strong commitment to the promotion of scholarly activities, the ability to provide strong academic leadership, and appreciation of the role of faculty in the governance of the institution. Salary commensurate with qualifications and experience.

*Washington State University is an Equal Opportunity/Affirmative Action Employer.* Nominations should be made in writing and should include biographical information to support the nomination. Screening will begin 31 December 1980.

Nominations and applications should be sent to:

**Professor P. E. Kolattukudy, Chair  
Vice President-Academic and Provost  
Search Committee  
Institute of Biological Chemistry  
Washington State University  
Pullman, Washington 99164**

**VISION SCIENTIST.** The Department of Physiological Optics of the School of Optometry is seeking an O.D./Ph.D. The person selected will be expected to teach an introductory course in physiological optics and a course in visual optics. The individual will also be responsible for teaching at the graduate level in an area appropriate to his/her research interests. Administrative responsibilities will be minimal. The department has a strong orientation towards research in vision science, and the selected individual will be expected to pursue research in this area. Evidence of scholarly research activities in the form of published articles in refereed journals and papers presented at professional meetings will be heavily weighted, as will evidence of teaching ability. The appointment will be at the assistant professor level, and salary will be commensurate with experience. Résumés will be accepted until 15 November 1980. Send curriculum vitae and the names of three professional references to: **Dr. Graeme Wilson, Department of Physiological Optics, School of Optometry/The Medical Center, University of Alabama in Birmingham, Birmingham, Alabama 35294.** An Affirmative Action/Equal Opportunity Employer.



## R & D SCIENCE

Meloy Laboratories, a member of the Revlon Health Care Group, is a diversified, high-technology organization located in suburban Washington, D.C. Our organization conducts long-range studies for the medical research community, develops and markets a line of immuno-diagnostic products, and a variety of instrumentation.

We are currently seeking candidates in the following areas:

- **IMMUNOLOGY** (Ph.D.): immunoassay development; experience with enzyme and fluorescent immunoassays required.
- **IMMUNOLOGY** (Ph.D.): cellular immunologist with established experience in performing animal-based research. Supervisory experience required.
- **BIOCHEMISTRY/MICROBIOLOGY** (Ph.D.): recombinant DNA cloning research; experience in Maxam, Gilbert, and Sanger sequencing methods desirable.
- **BIOCHEMISTRY** (Ph.D.): directs laboratory staff in protein purification and characterization; supervisory experience required.

Salary commensurate with background and experience. Full benefits package offered. Interested candidates should submit résumé in complete confidence to:

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6715 Electronic Drive  
Springfield, Virginia 22151

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## Overseas Opportunities

The King Faisal Specialist Hospital and Research Centre, a large Medical City located in Riyadh, Saudi Arabia, seeks qualified personnel for the newly constructed **CANCER THERAPY INSTITUTE**. The Institute will employ a staff of 135 personnel involved in patient care and applied clinical research. Personnel are needed for the following departments.

Administration  
Cyclotron Operations  
Cancer and Radiation Therapy Research  
Clinical Radioisotope Research  
Gamma Irradiation Services  
Health Physics  
Medical Physics  
Radiation Biology  
Radionuclide Production and Distribution

Benefits include: 2 year contract; outstanding salary; free transportation; 30 day annual paid vacation; married status housing; education tuition for children; salary bonus and more.

For further information concerning the new *Cancer Therapy Institute* send current resume and salary history to:

Russell C. Dickinson, Director  
Human Resource Management (U.S.)  
Hospital Corporation International  
P.O. Box 550, One Park Plaza  
Nashville, TN 37202

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## SENIOR DEVELOPMENT CHEMIST (IMMUNOBIOLOGY)

Ortho Pharmaceutical Corporation, a Johnson & Johnson Company, has an opportunity available for a Development Chemist interested in joining an expanding area in a progressive company.

A position for a Senior Scientist in The Peptide Group of The Division of Immunobiology has been created because of expansion. Our well equipped, modern laboratories offer a stimulating research and development environment with innovative projects in new and challenging efforts.

Successful candidates should have a Ph.D. in Chemistry and 3-5 years of chemical development experience in pharmaceuticals or other fine chemicals. A thorough knowledge of peptide chemistry is desirable.

Responsibilities will include the development of processes to novel peptides and liaison with other divisions within Ortho.

Ortho is located in central New Jersey and offers a competitive salary and benefits package coupled with a growth environment that provides realistic opportunities for advancement and personal development.

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

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## DIRECTOR DEPARTMENT OF PATHOLOGY

Cuyahoga County Hospital, a major teaching Hospital of Case Western Reserve University School of Medicine, is inviting applications for the position of Director of Pathology. Candidates should have appropriate backgrounds in academic pathology with a major interest in research and teaching, as well as the ability to run a large, diverse Department of Pathology and a pathology training program. Applications or nominations with accompanying curriculum vitae, should be addressed to:

Dr. James R. Carter, Jr.  
Chairman, Pathology Search Committee  
Cuyahoga County Hospital  
3395 Scranton Road  
Cleveland, Ohio 44109

*Cuyahoga County Hospital and Case Western Reserve University are Equal Opportunity/Affirmative Action Employers*

## POSITIONS OPEN

### POSTDOCTORAL RESEARCH POSITION

Postdoctoral positions available immediately in developmental neurobiology for the study of the effects of hormones and CNS drugs in primary neuronal and glial cell cultures. Experience in neurobiology, tissue culture, and biochemical techniques necessary, as well as a strong interest in neurotransmitter uptake mechanisms, enzymes, and receptors. Send curriculum vitae to: **Dr. Antonia Vernadakis, Department of Pharmacology, University of Colorado School of Medicine, Denver, Colo. 80262.** The University of Colorado Health Sciences Center is an Equal Opportunity Employer.

### TUMOR IMMUNOLOGIST

The Life Sciences Group of Arthur D. Little, Inc., is seeking an individual to carry out studies with drugs and natural products which modify host response to neoplasms. The thrust of this program is to assist commercial and governmental clients in the development of agents which will be useful in the immunotherapy of cancer and other diseases. The successful candidate will work closely with individuals involved in development of chemotherapeutic and radiation-modifying agents and will participate in studies of combined modality therapy in tumor-bearing animals. Requires Ph.D. in a pertinent field, experience in tumor biology, and expertise in assessment of drug effects on cell-mediated and humoral immunity. The position is available immediately with salary commensurate with experience and qualifications.

Send résumé, curriculum vitae, and names of three references to: **Diana Fahey, Arthur D. Little, Inc., 20 Acorn Park, Cambridge, Mass. 02140.** Arthur D. Little, Inc., is an Equal Opportunity/Affirmative Action Employer.

**ZOOLOGISTS, BOTANISTS, ECOLOGISTS.** The Nature Conservancy is soliciting applications for positions with anticipated inventory programs in several states. Duties: establish in-state center, prepare classification and data storage system, collect data, plan, budget. Training provided. M.S. or Ph.D. preferred; administrative ability helpful; \$14,000 to \$17,000. All benefits. *Equal Opportunity Employer.* Send résumé to: **Heritage, Suite 800, 1800 North Kent Street, Arlington, Va. 22209.**

## TRAVEL GRANTS

### \$ FOR NATURAL AND SOCIAL SCIENTISTS \$

Faculty members in colleges in Florida, Kentucky, Louisiana, North Carolina, South Carolina, and Tennessee may apply for supplemental small grant assistance (average \$400) for travel to use facilities and equipment not available locally and needed in research. Write: **Small Grants Program, Southern Regional Education Board, 130 Sixth Street, NW, Atlanta, Georgia 30313.**

## PUBLIC MEETING

**Public Meeting on Nitrites.** A committee of the National Academy of Sciences (NAS) is beginning a study of the health risks and benefits associated with the use of nitrites and other curing agents. A public meeting will be held 22 January 1981 in the NAS auditorium, 2100 C Street, NW, Washington, D.C., to hear comments on where the committee might focus its efforts. Those who wish to attend, submit material, or make oral presentations should telephone: **Dr. Robert A. Mathews at 202-389-6085.**

## GRADUATE STUDY

### GRADUATE STUDIES IN PHYSIOLOGY AND BEHAVIOR

A limited number of teaching and research assistantships are available in the Biology Department of Wesleyan University for highly qualified applicants with interests in physiology and behavior. The 12-month stipend for 1981-1982 is expected to be approximately \$5500 in addition to full tuition remission and a dependency allowance (if applicable). Research interests represented in the department include neurosecretion, sensory neurobiology, behavioral genetics, photoperiodism, and cellular behavior. For further information, write: **Director of Graduate Admissions, Department of Biology, Wesleyan University, Middletown, Conn. 06457.**

## ANNOUNCEMENT

The **MUTANT MYELOMA LINE, SKO-007**, useful for making of human hybridomas (reference, *Proceedings of the National Academy of Sciences*, September 1980), is available to: (i) academic scientists under their prior agreement to restrict further distribution, and (ii) to industry under nonexclusive license agreement. For information and copies of the academic scientist distribution agreement or industry license agreement, contact: **Office of Technology Licensing, 105 Encina Hall, Stanford University, Stanford, Calif. 94305.**

## COURSE

**NATO ASI/FEBS Advanced Course  
CURRENT METHODS IN STRUCTURAL  
MOLECULAR BIOLOGY  
3 to 16 May 1981 in Maratea, South Italy**  
Further details from:

**Dr. D. B. Davies  
Department of Chemistry  
Birkbeck College  
Malet Street  
London WC1E 7HX United Kingdom**

## ADVANCE STUDY INSTITUTE

### COLLECTIVE EXCITATIONS IN SOLIDS

A NATO Advanced Study Institute on various excitation processes in which the constituents of a solid participate collectively. Examples to be examined in detail include: phonons, plasmons, magnons, excitons, polarons, and polaritons.

Lecturers: F. Auzel, G. Benedek, C. Benoit à la Guillaume, P. J. Dean, B. Di Bartolo, R. Evrard, H. Haken, J. Jortner, R. S. Knox, R. Loudon, A. A. Lucas, D. C. Mattis, R. Moncorgé, D. Pacheco, A. Scharmann, N. Terzi, and F. Williams.

**15 to 29 June 1981; Erice, Italy**

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

## PROGRAMS

### DOCTORAL PROGRAM—PHARMACOLOGY

Medical University of South Carolina, Department of Pharmacology, seeks qualified candidates for Ph.D. program. Interdisciplinary environment with research capabilities ranging from gas chromatography-mass spectrometry through cell cultures and animal studies to clinical studies of patients with disease. Research training is available in biochemical pharmacology, cardiovascular pharmacology, drug metabolism, toxicology, analytical chemistry, and clinical pharmacology. Stipends available. Contact: **Graduate Training Director, Department of Pharmacology, Medical University of South Carolina, Charleston, S.C. 29403.**

### PROFESSIONAL PROGRAM: DOCTOR OF OPTOMETRY (O.D.)

Accelerated program of two calendar years specifically designed for the Ph.D. in the sciences to earn the O.D. degree. Excellent opportunities in health-related teaching and research; opportunity for an independent professional career. Program starts May 1981. Director of Admissions, **The New England College of Optometry, 424 Beacon Street, Boston, Massachusetts 02115.**

## FELLOWSHIPS

### FELLOWSHIP, CLINICAL CHEMISTRY

The University of California, Irvine, Department of Pathology, is recruiting for a fellow in clinical chemistry. Required: M.D. with at least 2 years in clinical pathology or clinical/anatomical pathology. Duties include supervision of resident staff in division of clinical chemistry and research (basic or clinical). *Affirmative Action Employer.* Send curriculum vitae and references to: **H. Simpkins, M.D., Ph.D., Chief, Division of Clinical Chemistry, University of California, Irvine Medical Center, Orange, California 92668** by 15 December 1980.

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIPS Visual Science

Applications for NRSA fellowships in the 1980-1981 or 1981-1982 academic years are being accepted by the Eye Research Institute of Retina Foundation. Preceptors and programs are: Biochemistry—A. Adler, B. Chakrabarti, C. Cintron, and L. Reif-Lehrer; Physiology, Pharmacology, and Virology—A. Neufeld and D. Pavan-Langston; Immunology—M. Abelson, M. Allansmith, and C. S. Foster; Morphology—C. Cintron, I. K. Gipson, K. R. Kenyon, and M. Lahav; Neuroscience—A. R. Adolph, P. H. Hartline, T. Hirose, D. M. Snodderly, J. Weiter, and R. Zuckerman; Bioengineering and Biomaterials—M. G. Doane, G. T. Feke, and M. F. Refojo. A brief brochure describing the training program in detail is available. Write to the preceptor of interest at:

**Eye Research Institute of Retina Foundation  
20 Staniford Street  
Boston, Mass. 02114**

### POSTDOCTORAL FELLOWSHIPS

Radiation oncology, medical radiation dosimetry, and radiobiology available 1 July 1981 at Radiation Oncology Center, University of Kentucky Medical Center. Supported by NIH training grant for qualified M.D. or Ph.D. applicants. Must be U.S. citizens or permanent residents. Candidates must be interested in research and academic career. Submit curriculum vitae, bibliography, and names of three references to: **Chairman, Radiation Oncology Center, University of Kentucky Medical Center, Lexington, Kentucky 40536.** An Equal Opportunity Employer.

The Committee on Institutional Cooperation (CIC), the academic consortium of the Big Ten universities and the University of Chicago, offers at least 25 4-year **GRADUATE FELLOWSHIPS** in the sciences, mathematics, and engineering to Black, Hispanic, and Native American students to study at the CIC universities starting 1981-1982. Includes a maximum annual stipend of \$4800 and payment of tuition. For information: **CIC Minorities Fellowships Program, Kirkwood 111, Indiana University, Bloomington, Ind. 47405.** Telephone, toll-free, through 1 February: **800-457-4420.**

### FELLOWSHIP IN HEMATOPATHOLOGY

Post-residency training and research in laboratory hematology including associated areas of coagulation, lymph nodes, and immunology for Board-eligible pathologists. One-year program with option for second year. A University of California Irvine Medical Center and Memorial Hospital Medical Center of Long Beach integrated program. Positions available starting July 1981. Apply with curriculum vitae to: **Henry Simpkins, M.D., Division of Hematopathology, University of California Irvine Medical Center, Orange, Calif. 92668.** An Equal Opportunity/Affirmative Action Employer.

## TRAINEESHIPS

**Postdoctoral Traineeships in Neuroplasticity.** Positions are available for training in research related to the development and regeneration of the nervous system. The traineeships, supported by an NINCDS training grant, are available to individuals with the Ph.D. or M.D. degree beginning 1 July 1981. The multidisciplinary program has available preceptors Doctors N. Berman, T. Cunningham, M. Goldberger, H. Murphy, M. Murray, L. Pubols, L. Ross, and B. Weiss. Applications consisting of a statement of research interests, curriculum vitae, and three references, should be sent to: **Dr. Leonard L. Ross, Department of Anatomy, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, Pa. 19129.** An Equal Opportunity/Affirmative Action Employer.

## MARKETPLACE

### RESEARCH GRANTS

*Research Funding Journal (RFJ)* is published monthly. RFJ is an ongoing source of information on both governmental and foundation funding sources for the biological, medical, and physical sciences. Funding sources along with their eligibility, deadlines, and application procedures are described in each issue. Price: \$39 per year. **Warren Research, Department 109, Box 1771, Decatur, Illinois 62525.**

## LABORATORY SUPERVISOR Biochemistry

Rush-Presbyterian-St. Luke's, a large, nationally known medical facility and teaching institution is presently seeking a Laboratory Supervisor. Primary responsibility will involve the supervision of approximately 10-14 individuals in a large, fully automated lab that employs 80 people. Qualified candidate will be MT/ASCP registered with a minimum of 4 years clinical chemistry laboratory experience. Prior supervisory experience is desirable.

Rush offers a fine salary and excellent benefits which include 3-weeks paid vacation, tuition reimbursement and full insurance coverage, all within an atmosphere of personal and professional growth. Join a team where good work is well rewarded! Please forward your resume to:



Ed Getz  
Rush-Presbyterian-St. Luke's  
Medical Center  
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Chicago, Illinois 60612  
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## TOXICOLOGISTS

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Opportunities exist to continue successful research careers with the Environmental Services Division of American Cyanamid Company.

We are seeking an individual for our Pearl River, New York location with a DVM, MD or PhD in Toxicology to serve as the **MANAGER OF TOXICOLOGY** in a laboratory specializing in all types of toxicology studies. Must have a minimum of 5 years experience with management and/or industrial background.

Our Corporate Headquarters in Wayne, New Jersey is looking for Sr. and Jr. **STAFF TOXICOLOGISTS**. These individuals must have at least 2 years experience, preferably in the industrial area. Candidates will plan, administer and evaluate safety programs. Positions also require ability to work closely with medical, hygiene, safety and pollution control personnel.

Challenging growth positions also available at the Pearl River, N.Y. facility for **RESEARCH TOXICOLOGISTS** who have recently received a PhD in Toxicology to assume study director responsibilities. Candidates must have laboratory experience in toxicology and be able to organize, analyze, interpret animal toxicity data and possess above average writing ability.

All positions offer competitive salaries, excellent benefits package and significant career growth. Send resume to Personnel, Dept. N,



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Please forward credentials, preferably  
by resume, in confidence, to:

**Box 1004 CA, c/o Suite 1100, 551 Fifth Ave.,  
NY, NY 10176**

An Equal Opportunity Employer M/F

## RECOMBINANT DNA RESEARCH ORGANIC CHEMISTS

Our growing Recombinant DNA Research program has created opportunities for Senior and Junior chemists to be involved in the synthesis of oligonucleotides.

For the Senior position we require a Ph.D. in Organic Chemistry or Biochemistry with a strong background in synthesis preferably in nucleic acid chemistry. Post-doctoral work and additional experience in DNA sequencing, solid phase oligonucleotide synthesis and nucleic acid enzymology would be desirable.

For the Junior positions the requirements are a B.S. or M.S. degree in organic chemistry with a biochemistry background, experience in preparative organic chemistry and a thorough knowledge of chromatographic techniques. Experience in oligonucleotide synthesis would be advantageous.

Hoffmann-La Roche Inc. is one of the world's foremost manufacturers of pharmaceuticals and vitamins. Our location in a suburban area 12 miles from New York City offers unusual opportunities for cultural and recreational activities. We offer a salary commensurate with experience and responsibilities plus attractive benefits package. Please send resume to:

Mrs. Eleanor M. Malone  
Professional Placement Specialist  
Hoffmann-La Roche, Inc.  
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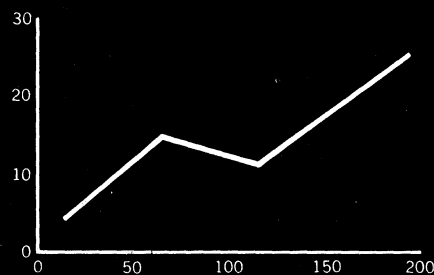
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