

tained," and "some chapters . . . contain much new information." Each chapter has its own reference list, and the volume has a 10-page subject index.—K.L.

Predator-Prey Relationships. Perspectives and Approaches from the Study of Lower Vertebrates. MARTIN E. FEDER and GEORGE V. LAUDER, Eds. University of Chicago Press, Chicago, 1986. x, 198 pp., illus. \$26; paper, \$11.95. Based on a symposium, Norman, OK, 1985.

This volume stems from a symposium at which an invited group of researchers concerned with fishes, reptiles, and amphibians were asked to consider the utility and potential of their research approaches with respect to the development of a general theory of predation. The volume opens with considerations of the study of functional morphology (Gans) and locomotion (Webb) as related to predator-prey relationships, neural mechanisms of prey recognition (Roth), and the measurement of behavioral energetics (Bennett). There follow a general discussion of the value of the comparative, descriptive approach (Huey and Bennett) and a paper by Harry W. Greene, added after the symposium, that considers the reasons for "recent disinterest and condescension toward natural history," notes some practical consequences of this attitude, presents some examples of the fruitfulness of the natural history approach, and makes some suggestions for the maintenance of the field. The remaining papers discuss features of defense against predators (Endler) and behavior of fish as prey (Helfman) and strategies for analyzing adaptation (Arnold). A "commentary and conclusion" by the editors and a subject index conclude the book.—K.L.

Response and Stability. An Introduction to the Physical Theory. A. B. PIPPARD. Cambridge University Press, New York, 1985. xii, 228 pp., illus. \$49.50; paper, \$17.95.

"While textbooks of physics normally stress continuous processes, if only because they are easier to understand, and must precede the study of discontinuity," the author writes, "this book is far more concerned with the moments of sudden change." Based on lectures given to physics students "in an attempt to broaden their outlook," the volume addresses "questions which are apt to arise in all branches of physics and engineering, and not only in scientific circles." The author has chosen illustrative examples likely to be of interest to engineers as well as physicists and has adopted a "prolix style" in preference to an economical, mathematically compressed one for pedagogic reasons and because he him-

self finds "the mathematics rather dull and the . . . examples interesting." The subject is presented in seven chapters: on the harmonic oscillator, generalized linear systems and stability criteria, response of linear systems, periodically driven nonlinear systems, elementary types of catastrophe, phase transitions, and broken symmetry. A number of exercises and descriptions of experiments for the reader to carry out are included, along with many illustrations, and the author also presents (in square brackets) some speculation on the applicability of the ideas discussed outside the realm of physics.—K.L.

Books Received

Biologie Végétale. Plantes Supérieures. Vol. 1, Appareil Végétif. Robert Gorenflot. 2nd ed. Masson, Paris, 1986. xii, 238 pp., illus. Paper, F110.

Biology of Benthic Marine Organisms. Techniques and Methods as Applied to the Indian Ocean. Mary-Frances Thompson, Rachakonda Sarojini, and Rachakonda Nagabhushanam, Eds. Balkema, Boston, 1986. xxviii, 608 pp., illus. \$38.50. Indian Edition Series, 12. From a symposium, Aurangabad, India, Jan. 1984.

Chemistry of Organo-Zirconium and -Hafnium Compounds. D. J. Cardin and C. L. Ralston. Horwood, Chichester, England, and Halsted (Wiley), New York, 1986. 451 pp., illus. \$120. Ellis Horwood Book in Inorganic Chemistry.

Chemistry Trivia. Book 1, History. Sylvania Tascher. James D. Navartil, Ed. Litarvan, Arvada, CO, 1986. ii, 126 pp., illus., + appendix. Paper, \$12.50.

Chemometrics. Muhammad A. Sharaf, Deborah L. Illman, and Bruce R. Kowalski. Wiley-Interscience, New York, 1986. xii, 332 pp., illus. \$49.95. Chemical Analysis, vol. 82.

Child Development and Education in Japan. Harold Stevenson, Hiroshi Azuma, and Kenji Hakuta. Freeman, New York, 1986. xii, 315 pp., illus. \$24.95; paper, \$14.95. A Series of Books in Psychology. Based on a conference, 1982.

Children, Parenthood, and Social Welfare. In the Context of Developmental Psychology. Michael Siegal. Clarendon (Oxford University Press), New York, 1985. viii, 170 pp., illus. \$26.95.

Emil W. Haury's Prehistory of the American Southwest. J. Jefferson Reid and David E. Doyel, Eds. University of Arizona Press, Tucson, 1986. xii, 506 pp., illus. \$45. A collection of reprinted articles by Haury, to which have been added his "Retrospective" on his work, a bibliography of his publications, and six brief retrospective papers by colleagues.

Environmental Consequences of Nuclear War. Vol. 2, Ecological and Agricultural Effects. Mark A. Harwell, Thomas C. Hutchinson *et al.* Published on behalf of the Scientific Committee on Problems of the Environment by Wiley, New York, 1986. xxxviii, 523 pp., illus. \$81.95. SCOPE 28.

The Human Thymus. Histophysiology and Pathology. Hans Konrad Müller-Hermelink, Ed. Springer-Verlag, New York, 1986. x, 275 pp., illus. \$85. Current Topics in Pathology, 75.

Humor and Life Stress. Antidote to Adversity. Herbert M. Lefcourt and Rod A. Martin. Springer-Verlag, New York, 1986. x, 142 pp., illus. \$29.95.

Immunity in Invertebrates. Cells, Molecules, and Defense Reactions. Michael Brehélin, Ed. Springer-Verlag, New York, 1986. x, 233 pp., illus. \$54. Proceedings in Life Sciences. From a conference, Montpellier, France, Sept. 1984.

In Praise of Wolves. R. D. Lawrence. Holt, New York, 1986. x, 245 pp., + plates. \$16.95.

Instrumentation for Environmental Physiology. B. Marshall and F. I. Woodward, Eds. Cambridge University Press, New York, 1985. xii, 241 pp., illus. \$34.50. Society for Experimental Biology Seminar Series, 22.

Measurement and Analysis of Socioeconomic Development. An Enquiry into International Indicators of Development . . . Donald McGranahan, Eduardo Pizarro, and Claude Richard. United Nations Research

Institute for Social Development, Geneva, 1985. xx, 504 pp., illus. Paper, Report no. 85.5.

Measures and Men. Witold Kula. Princeton University Press, Princeton, NJ, 1986. x, 386 pp., \$39.50. Translated from the Polish by R. Szreter.

Nightwatch. An Equinox Guide to Viewing the Universe. Terence Dickinson. Illustrations by Victor Costanzo and Adolf Schaller. Camden House, Camden East, Ontario, 1986 (U.S. distributor, Firefly Books, Toronto). 160 pp., illus. Spiral bound, \$19.95. Revised reprint, 1983 ed.

Nonlinear Optics. Materials and Devices. C. Flytzanis and J. L. Oudar, Eds. Springer-Verlag, New York, 1986. viii, 249 pp., illus. \$41. Springer Proceedings in Physics, 7. From a school, Erice, Sicily, July 1985.

Nuclear Structures. Isolation and Characterization. A. J. MacGillivray and G. D. Birnie, Eds. Butterworths, Boston, 1986. xii, 209 pp., illus. \$69.95.

Numerical Simulation of Plasmas. Y. N. Dnestrovskii and D. P. Kostomarov. Springer-Verlag, New York, 1986. xiv, 304 pp., illus. \$77. Springer Series in Computational Physics. Translated from the Russian edition (Moscow, 1982).

The Ontogeny of Information. Developmental Systems and Evolution. Susan Oyama. Cambridge University Press, New York, 1986. x, 206 pp. \$34.50; paper, \$12.95.

An Operating Systems Vade Mecum. Raphael A. Finkel. Prentice-Hall, Englewood Cliffs, NJ, 1986. xii, 292 pp., illus. \$32.95.

Optical Bistability III. H. M. Gibbs *et al.*, Eds. Springer-Verlag, New York, 1986. xiv, 364 pp., illus. \$34.50. Springer Proceedings in Physics, 8. From a meeting, Tucson, AZ, Dec. 1985.

Psychopathology in Epilepsy. Social Dimensions. Steven Whitman and Bruce P. Hermann, Eds. Oxford University Press, New York, 1986. xviii, 309 pp., illus. \$39.95.

Quantitative Receptor Autoradiography. Carl A. Boast, Elaine W. Snowhill, and C. Anthony Altar, Eds. Liss, New York, 1986. xii, 268 pp., illus., + plates. \$49.50. Neurology and Neurobiology, vol. 19. From a symposium, Anaheim, CA, 1984.

Radioactive Waste Management and Disposal. R. Simon, Ed. Cambridge University Press, New York, 1986. xiv, 734 pp., illus. \$89.50. From a conference, Luxembourg, April 1985.

Rate Equations in Semiconductor Electronics. J. E. Carroll. Cambridge University Press, New York, 1986. xii, 177 pp., illus. \$39.50.

Readings in Input-Output Analysis. Theory and Applications. Ira Sohn, Ed. Oxford University Press, New York, 1986. xiv, 453 pp., illus. \$39.95. A collection of 28 reprinted papers intended to present some of the best work in input-output analysis to teachers and researchers.

Social Psychology. Kenneth J. Gergen and Mary M. Gergen. 2nd ed. Springer-Verlag, New York, 1986. xxii, 453 pp., illus. \$30.95.

The Social Role of the Man of Knowledge. Florian Znaniecki. Transaction, New Brunswick, NJ, 1986. xiv, 212 pp. Paper, \$19.95. Social Science Classics Series. Augmented reprint, 1968 ed.

Soil Mineral Weathering. J. A. Kitrick, Ed. Van Nostrand Reinhold, New York, 1986. xvi, 271 pp., illus. \$34.95. A Hutchinson Ross Publication. Van Nostrand Reinhold Soil Science Series.

Sourcebook on Asbestos Diseases. Medical, Legal, and Engineering Aspects. Vol. 2. Barbara J. Peters and George A. Peters. Garland, New York, 1986. x, 843 pp., illus. \$75.

Space Missions to Halley's Comet. R. Reinhard and B. Battrick. European Space Agency, Paris, 1986. xvi, 253 pp., illus. Paper, F200. ESA SP-1066.

Spectral Evolution of Galaxies. Cesare Chiosi and Alvio Renzini, Eds. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Hingham, MA). xii, 490 pp., illus. \$78. Astrophysics and Space Science Library, vol. 122. From a workshop, Erice, Italy, March 1985.

Spinors and Space Time. Vol. 2. Spinor and Twistor Methods in Space-Time Geometry. Roger Penrose and Wolfgang Rindler. Cambridge University Press, New York, 1986. x, 501 pp., illus. \$89.50. Cambridge Monographs on Mathematical Physics.

Star Wave. Mind, Consciousness, and Quantum Physics. Fred Alan Wolf. Macmillan, New York, 1986. x, 342 pp., illus. Paper, \$9.95. Reprint, 1984 ed.

Storm Over Biology. Essays on Science, Sentiment, and Public Policy. Bernard D. Davis. Prometheus, Buffalo, NY, 1986. vi, 324 pp. \$22.95. A collection of 44 editorials, book reviews, letters, and writings on themes ranging from sociobiology through affirmative action, public concern over science, and genetic engineering.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference.

LINE CLASSIFIED ADVERTISING DEADLINES:
19 September issue (mailed 12 September): **29 August**
26 September issue (mailed 19 September): **5 September**
3 October issue (mailed 26 September): **12 September**
10 October issue (mailed 3 October): **19 September**

POSITIONS WANTED: 40¢ per word, plus \$4 for use of box number, per week. \$10 minimum, per week. Prepayment required. This rate is available only to individuals seeking jobs.

LINE DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$13.00 per millimeter; \$325 minimum, per week (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing address required for all other advertising.

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

SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005
Telephone: 202-326-6555

Send copy for **Fractional Display** ads, 1/6 page and larger, and all **Marketplace** ads to:

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

Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1333 H Street, NW
Washington, DC 20005

POSITIONS WANTED

Aquatic Ecologist/Administrator, Ph.D. Twenty-five years of experience in teaching, research, government, business management, and environmental consulting. Desires challenging industrial/academic position, preferably at administrative/graduate level. Box 156, SCIENCE. 8/29; 9/5, 12, 19, 26; 10/3

Biochemist Ph.D. 1980, England. Extensive experience in protein and enzyme purification, characterization, sequence, HPLC, cell culture, cell technology, and so forth. Teaching and industrial experience, seeks position in research, teaching, or industry. Will consider short-term appointment. Available immediately. Box 142, SCIENCE. X

Chemometrician/Biologist, Ph.D. Ten years of experience in applications and developments of multivariate data analysis methods for pyrolysis mass spectrometry and other data from the analysis of microorganisms, fossil fuels, plant materials, biopolymers, technical polymers, and so forth. Over 40 publications. Seeking senior industrial or academic position. Box 153, SCIENCE. X

Entomologist/Agroecologist (Ph.D. Entomology): 6 years of experience in field research and teaching in biological control, agroecology, and pest management. Interest in sustainable agriculture. Seeks research, teaching, or consulting position in academia/industry. R. L. Bugg, 233 Hatchville Road, East Falmouth, MA 02536. 8/29; 9/5, 12

Patent Attorney: Recently registered to practice before the U.S. Patent Office. Especially interested in biotechnology/pharmaceutical/biochemical practice. Desire entry level position in New England or Midwest. Previous experience as a tax attorney. Box 156, SCIENCE. X

POSITIONS WANTED

M.D., Ph.D. Many years of research experience, directing metabolic and genetic laboratory. Teaching, publications, and patient care. Seeks position in Genetics and Pediatric Department. Board-certified, training in biochemistry and pediatrics. Prefer medical school affiliation. Box 154, SCIENCE. 8/29; 9/5, 12

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR

The Department of Biochemistry, University of Virginia School of Medicine, is seeking to fill a tenure-track position at the assistant or associate professor level. The position is available 1 July 1987. The department is seeking candidates with research interests in the areas of protein structure or protein structure-function relationships of either membrane or globular proteins. Candidates should have a strong background in quantitative biochemistry or biophysics and must have a Ph.D. degree and significant postdoctoral experience or their equivalent. Interested individuals should submit curriculum vitae, a brief outline of future research plans, representative reprints describing past research, and three letters of reference by 1 November 1986 to:

Dr. Peter W. Holloway
Department of Biochemistry
University of Virginia School of Medicine
Charlottesville, VA 22908

The Center for Neural Science at Brown University is searching for an individual to carry out both theoretical and experimental research on synaptic modification in the mammalian visual cortex. In addition to research, the position requires complete responsibility for an introductory level undergraduate course and an upper level graduate course in neural science. Candidates should have a funded research program, preferably with a focus on the function of the cerebral cortex. Appointment will be at the ASSISTANT PROFESSOR level. Interested candidates should submit a curriculum vitae, a description of research and teaching experience, and the names of three references not later than 30 September 1986 to: **Dr. Leon Cooper**, Center for Neural Science, Box 1953-J.A., Brown University, Providence, RI 02912.

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSORS OF BIOCHEMISTRY UNIVERSITY OF COLORADO, BOULDER

Applications are sought for two tenure-track positions to begin in September 1987. One priority is in macromolecular crystallography or a related area of structural biochemistry. Applications in all other areas of biochemistry are welcome, but those with approaches that interface with other areas of chemistry are encouraged. Applicants should send a résumé, reprints, statement of research plans, and three letters of reference to: **Biochemistry Search Committee**, Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO 80309-0215. The applications will be evaluated 1 November 1986, although later applications may be considered if the positions have not been filled. *The University of Colorado is an Affirmative Action/Equal Opportunity Institution.*

ASSISTANT/ASSOCIATE PROFESSOR, PLANT GENETICS/BREEDING, University of Massachusetts, Amherst. Tenure-track position for an individual to develop a research and instructional program in plant genetics. Candidate should have a strong background in plant cytogenetics or another basic area of plant genetics. Research would be conducted on crops of horticultural or agronomic importance in the Northeast. Teaching responsibilities include a plant breeding course and a course in the candidate's area of specialization. A Ph.D. is required. Available for spring semester, 1987. Send letter of intent, résumé, transcripts, and the names, addresses, and telephone numbers of three references to: **Chair, Genetics Search Committee, Plant and Soil Sciences, French Hall, University of Massachusetts, Amherst, MA 01003.** Application must be postmarked by 22 September 1986. *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR FOOD TOXICOLOGY/BIOTECHNOLOGY

Tenure-track starting 15 November 1986. Initially 100 percent research, after 3 years the position becomes approximately 67 percent research, 33 percent teaching. We seek an individual with research experience in toxicology and carcinogenesis to join an established program examining comparative mechanisms of carcinogenesis and its modulation in rainbow trout. Preference will be given to individuals experienced in applications of biotechnology approaches to carcinogenesis and to food science research problems in general. A Ph.D. in food science or related field and postdoctoral experience are required. Ability to teach undergraduate and graduate courses in food science is essential.

Closing date for applications is 1 October 1986. Send letter of application, transcripts, résumé, brief statement of research interests, and three letters of recommendation to:

Dr. George S. Bailey
Chairman, Screening Committee
Department of Food Science and Technology
Oregon State University
Corvallis, OR 97331
503-754-3164

Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with section 504 of the Rehabilitation Act of 1973.

ASSISTANT RESEARCH PROFESSORSHIP (NON-TENURED). Available for individual with Ph.D. and appropriate experience to pursue research in a funded research program on the biosynthesis, structure, and mechanism of action of connective tissue lysyl oxidase and related amine oxidases. Expertise in the application of recombinant DNA technology to the analysis of protein structure and function and/or in enzyme chemistry, kinetics, and active site characterization is required. Opportunities for participation in graduate-level teaching and for advancement in academic rank will exist. Salary will be commensurate with experience. Send résumé and names of three references to: **Dr. Herbert M. Kagan**, Department of Biochemistry, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118. *Equal Opportunity Employer, M/F.*

ASSOCIATE DIRECTOR. Renal Immunopathology Laboratory. Ph.D. in molecular biology, biochemistry, or immunology. Will assist director in daily operation of laboratory, in administration, quality control, and development of new techniques: Nucleic and hybridization, protein chemistry, and cellular immunology. Curriculum vitae and references to: **S. RAJARAMAN, M.D., 201 Keiller Building, The University of Texas Medical Branch, Galveston, TX 77550.** *Affirmative Action/Equal Opportunity Employer.*

ASSOCIATE RESEARCH SCIENTIST. To conduct research on acid-base transport mechanisms and intracellular pH regulation in isolated perfused mammalian renal tubules, employing optical absorbance techniques. Position requires a Ph.D. or equivalent degree in physiology or basic medical sciences, in addition to proven expertise in ion transport, including microdissection and the use of microelectrodes on renal tubules. Full-time position with annual salary of \$24,000. Interested applicants should send their résumés to: **Dr. Walter F. Boron**, Yale University School of Medicine, Department of Physiology, 333 Cedar Street, New Haven, CT 06510. *An Equal Opportunity/Affirmative Action Employer.*

CHAIRPERSON, DEPARTMENT OF HEMATOLOGY—The University of Texas System Cancer Center M.D. Anderson Hospital and Tumor Institute is recruiting a chairperson for its Department of Hematology. This is a prestigious position with 35 faculty members and supporting clinical and laboratory programs predominantly related to hematologic malignancies. Candidate must have strong interests in both clinical and laboratory research and an established reputation as investigator. Clinical expertise and administrative experience in academic setting essential. Send curriculum vitae to: **Bernard Levin, M.D., Chairman, Hematology Search Committee, Division of Medicine, Box 68, 6723 Bertner Avenue, Houston, TX 77030.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSOCIATE RESEARCH SCIENTIST IN PHARMACOLOGY

The Department of Pharmacology is seeking an associate research scientist with an M.D. or Ph.D. degree to participate in studies of cardiac electrophysiology and pharmacology and of the mechanisms of action of antiarrhythmic drugs. The successful candidate will be required to have expertise in the use of microelectrode techniques and voltage clamp techniques for studying electrical activity and of the in situ heart, pharmacokinetics, biostatistics, and the theories of cardiac arrhythmias and antiarrhythmic drug action.

Interested persons should send curriculum vitae and the names of three references to:

Dr. Brian F. Hoffman
Department of Pharmacology
College of Physicians and Surgeons
Columbia University
630 West 168 Street
New York, NY 10032

Columbia University is an Equal Opportunity/Affirmative Action Employer.

ASSOCIATE SPECIALIST. The Department of Physiology, University of California at San Francisco, is looking for a person with a background in molecular biology for a research laboratory investigating the mechanisms of mammalian gene expression. The work will involve the identification and isolation for specific transcription factors and the DNA sequences with which they interact. Applicants must show a documented ability to perform recombinant DNA technology, including DNA and RNA sequencing, generation and characterization of point mutations, isolation and analysis of RNA synthesized in vivo and in vitro, and general methods of gene manipulation. Applicants must have at least 5 years of experience and be able to work unsupervised. A good working knowledge of the techniques involved in the purification and assay of DNA-binding proteins is essential, as is the ability to handle both large and small scale cell cultures (including media preparation and sterility control), and methods for introducing foreign genes into mammalian cells. The successful candidate must also be prepared to take charge of routine laboratory maintenance such as ordering and equipment repair. Starting salary is \$31,184, plus benefits. Send inquiries and curriculum vitae to: **Dr. Richard Myers, University of California, Department of Physiology, San Francisco, California 94143.** *University of California at San Francisco is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

Applications are invited for the position of **CHAIR OF THE DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF MISSOURI-COLUMBIA.** The department has university-wide responsibilities for undergraduate, graduate, and professional education in biochemistry, and has multifaceted research programs that relate to agriculture, medicine and the life sciences, and contribute to an interdisciplinary program in molecular biology. The successful candidate will be expected to provide leadership in all phases of the mission of the department and to cooperate with a vigorous administration to advance biochemistry toward eminent status. Candidates should be recognized as leaders in biochemical research, and have strong credentials in teaching and administration. Applications should include curriculum vitae and the names of three references. Nominations are also requested. Submit by 15 September 1986 to: **Dr. Warren L. Zahler, Chair, Search Committee, Department of Biochemistry, M121 Medical Sciences Building, University of Missouri-Columbia, Columbia, MO 65212.** *The University of Missouri is an Equal Opportunity/Affirmative Action Employer.*

ECOLOGISTS, middle to senior level for a professorship to be filled contingent on budgetary approval in summer or fall, 1987. Successful applicant should provide leadership in an active graduate program and interact with a young and vigorous faculty in ecology and evolutionary biology. Preference will be given to candidates working at the population or community level. Submit curriculum vitae and three letters of reference by 19 September 1986 to: **Dr. James S. Findley, Ecology Search Committee, Department of Biology, University of New Mexico, Albuquerque, NM 87131.** *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

BIOLOGY PLANT BIOLOGY/MICROBIOLOGIST

The University of Ottawa, Department of Biology, has a tenure-track position available for appointment during the 1986 to 1987 academic year. Applications are invited from persons holding a Ph.D. and having relevant postdoctoral experience and research interests in the general area of plant biology/microbiology. The successful candidate will be expected to maintain an active, externally funded research program and to contribute to undergraduate and graduate teaching. The appointee will become a member of the Ottawa-Carleton Centre for Graduate Studies and Research in Biology, a cooperative program between the University of Ottawa and Carleton University, which includes active collaboration with scientists from several government laboratories. The University of Ottawa is a bilingual institution; the ability to lecture in both French and English immediately on appointment is essential.

Applicants should submit, as soon as possible and before 15 September 1986, curriculum vitae and a brief description of teaching interests and future research plans, and should arrange to have three letters of recommendation sent to: **Dr. J. McNeill, Chairman, Department of Biology, Faculty of Science, University of Ottawa, Ottawa, Ontario Canada K1N 6N5.**

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada.

CHAIRPERSON AND PROFESSOR DEPARTMENT OF PSYCHIATRY MOUNT SINAI SCHOOL OF MEDICINE— MOUNT SINAI HOSPITAL

Applications are invited for the position of chairperson and professor of the Department of Psychiatry in our School of Medicine and Hospital. This position involves overall research, teaching, and administrative responsibility.

The physician we seek must have demonstrated accomplishments in research, teaching, and administration in a medical center setting.

Please send curriculum vitae and bibliography to:

Kurt Hirschhorn, M.D.
Chairman Search Committee
c/o K. D. Smith, Ph.D.
Post-Graduate School
The Mount Sinai Medical Center
One Gustave L. Levy Place
New York, NY 10029

DEPUTY DIRECTOR

Laboratory for Atmospheric and Space Physics
University of Colorado

The Laboratory of Atmospheric and Space Physics invites applications for the position of deputy director.

The deputy director has the leadership role in initiating new space research projects with the participation of the scientists of the laboratory. The deputy director is responsible for the financial and administrative management of the laboratory. The deputy director interacts with managers and contract negotiators at NASA headquarters and space centers in conducting the affairs of the laboratory.

The Laboratory for Atmospheric and Space Physics is a research institute of the University of Colorado that participates in the space exploration programs of the National Aeronautics and Space Administration. Current programs include experiments on the Galileo, Voyager, and Pioneer Venus planetary spacecraft, the Solar Mesosphere Explorer and Upper Atmosphere Research Satellite, Spartan spacecraft, and sounding rockets.

Candidates should have experience at university research laboratories and/or NASA research centers. Please send résumés to: **Professor Charles A. Barth, Director, Laboratory for Atmospheric and Space Physics, University of Colorado, Campus Box 392, Boulder, CO 80309-0392,** before 31 October 1986. Salary will be commensurate with experience and responsibilities.

The University of Colorado, Boulder has a strong institutional commitment to the principle of diversity. In that spirit, we are particularly interested in receiving applications from a broad spectrum of people, including women, members of ethnic minorities, and disabled individuals.

POSITIONS OPEN

DEVELOPMENTAL BIOLOGIST/GENETICIST.

The Department of Biology of Washington College invites applications for a sabbatical replacement at the rank of visiting assistant professor for the spring semester of 1987. Teaching responsibilities are a developmental biology/embryology course for majors, and a non-majors course dealing with human genetics, reproduction, and development. Washington College is located on the banks of the Chester River, a major tributary to the Chesapeake Bay on Maryland's Eastern Shore. Send curriculum vitae and two letters of recommendation by 15 September to: **Dr. Donald A. Munson, Department of Biology, Washington College, Chestertown, MD 21620.**

DIRECTOR OF NMR LABORATORY, The Pennsylvania State University.

The Chemistry Department is seeking a person to direct the operation of its NMR laboratory. The laboratory will be equipped with nine spectrometers including three high field and two solid instruments. Applications from persons with experience in running similar facilities are encouraged. The duties of director include the supervision of existing staff and the provision of an NMR service within the university. Applicants should have a knowledge of electronics and NMR technology sufficient to keep the laboratory at a state-of-the-art level. An important duty of the director will be the training of potential users of the spectrometers. It is also anticipated that the director will participate in teaching within the Chemistry Department including courses on theory and practice of NMR. It is expected that, where appropriate, the director will enter into collaboration with one or more of the research groups within the Chemistry Department, as well as maintaining his or her own research program. Send curriculum vitae and three confidential letters of recommendation to: **The Chairman of Search Committee, Box 4, Department of Chemistry, 152 Davey Laboratory, University Park, PA 16802.** Closing date for receipt of applications is 14 September 1986. *Affirmative Action/Equal Opportunity Employer.*

EVOLUTIONARY BIOLOGIST

The Department of Biology at the University of Oregon seeks to fill a tenure-track position at the assistant professor level in evolution, with emphasis on the processes of evolutionary change. Applicants should have postdoctoral experience and must show evidence of a strong research program. We are especially interested in candidates whose research promises close interaction with existing faculty in ecology and related areas (for example, genetics, neuroscience). Submit curriculum vitae, a detailed letter describing research interests, reprints, and the names, addresses, and telephone numbers of a minimum of three people willing to act as referees by 25 October to:

Dr. George Carroll
Chair, Evolution Search Committee
Department of Biology
University of Oregon
Eugene, OR 97403-1210

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

The Department of Chemistry, School of Chemical Sciences, at the University of Georgia invites applications for two tenure-track positions (academic year) at any level beginning 1 September 1987. **ANALYTICAL** and **ORGANIC CHEMISTS** having solid records of accomplishment in chemical research (biological orientation preferred), at least 2 years of postdoctoral experience or equivalent, and a strong commitment to the development of a vigorous program of scholarly research which can compete for federal grant support are encouraged to apply. A strong interest in and aptitude for teaching both undergraduate and graduate courses in analytical and organic chemistry, respectively, should be demonstrated. A curriculum vitae, summary of research plans, and the names of three or more references must reach the following address by 15 October 1986.

Dr. Harry D. Peck, Jr.
Director, School of Chemical Sciences
Chemistry Building
University of Georgia
Athens, GA 30602

The University of Georgia is an Equal Opportunity/Affirmative Action Institution.

RADIOBIOLOGY POSTDOCTORAL CANDIDATES

At our Life Sciences Division at Los Alamos National Laboratory, we're seeking postdoctoral candidates for our Radiobiology Program. Special emphasis on molecular investigation of DNA damage/repair, mutation induction and genetic regulatory mechanisms in carcinogenesis. Investigators and their research include:

- Dr. David J. Chen: Human ionizing radiation repair gene cloning/ expression; ionizing radiation mutagenesis.
- Dr. Mark A. MacInnes: Human UV/chemical DNA repair gene cloning/ expression; UV reactivation of gene expression.
- Dr. Richard T. Okinaka: Molecular mechanisms of chemical mutagenesis.
- Dr. Richard J. Reynolds: DNA repair, mutation, and recombination mechanisms in yeast and mammalian cells.
- Dr. Gary F. Strniste: Low-dose radiation genotoxicity; DNA damage/repair; mechanisms of chemical photoactivation.

Successful candidates should have excellent academic credentials and demonstrated research potential. Postdoctoral fellows receive \$29,520—\$31,080 per year, comprehensive benefits and relocation expenses. Consideration will be given to predoctoral or postdoctoral applicants, the latter within 2 years of graduation.

To formally apply, send resume stating research interests, Laboratory application, minimum of 3 reference letters, and graduate/undergraduate transcripts to: Carol M. Rich, Human Resources Development Division POSTDOC-A, Los Alamos National Laboratory, Los Alamos, NM 87545.

An Affirmative Action/Equal Opportunity Employer



Animal Modeling

Genetic Systems Corporation, a division of Bristol-Myers, performs research dedicated to developing novel approaches to the diagnosis and treatment of infectious diseases and cancer. We currently have an outstanding opportunity for an individual with expertise in animal modeling as it relates to the therapeutic intervention of infectious diseases.

Responsibilities of the position will include the design, coordination, and implementation of animal models that address the treatment of bacterial infections. The successful candidate must possess a demonstrated ability to problem-solve in biologic systems that involve several complex variables. In addition, superb written and oral communication skills will be necessary to effectively interact with a multidisciplinary research staff.

Qualified applicants should possess an advanced degree in Microbiology or a related discipline including success in the development and application of small animal model systems. The applicant should also have demonstrated experience in the supervision of other research personnel.

For consideration, send your curriculum vitae and the names of three references to **Genetic Systems Corporation, Personnel Department, 3005 First Avenue, Seattle, Washington 98121.**

Genetic Systems Corporation is an equal opportunity employer that offers competitive salaries, a comprehensive fringe benefit package, and a creative work environment. The Company is located in Seattle, Washington, a major cosmopolitan city in the Pacific Northwest.



Genetic Systems
CORPORATION

POSITIONS OPEN

ECOLOGICAL/MATHEMATICAL MODELING

Postdoctoral position open immediately to help work on the development and study of regional scale models of the response of vegetation to nuclear winter and to chronic environmental stress. Large-scale computations will involve spatially heterogeneous landscapes, local extinctions, invasions, refugia, and so forth. Applicants should have a strong background in mathematical modeling of ecological systems with a Ph.D. in ecology or computational mathematics (or field related to either). The applicant should have expertise in a high level computer language such as FORTRAN. Please submit letter of application, résumé, selected reprints, transcripts, and three letters of recommendation. Application deadline 26 September. Contact: **Dr. J. R. Kercher, Department of Mathematical Sciences, University of Missouri—St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121.**

FACULTY POSITIONS IN PHARMACOLOGY

The Department of Pharmacology of Hahnemann University Medical School in Philadelphia seeks applications for full-time faculty positions at the level of assistant or associate professor. Applicants should possess an M.D. or Ph.D. degree in pharmacology, or related disciplines, with 2 or more years of postdoctoral experience. The applicant is expected to demonstrate excellence in research and the ability to establish an independent research program. Modern laboratory facilities and start-up funds are available. Salaries are competitive. Applicants should send a detailed curriculum vitae and the names of three references to: **Dr. Warren S. Chernick, Professor and Chairman, Department of Pharmacology, Hahnemann University Medical School, Broad and Vine Street, Philadelphia, PA 19102.**

An Affirmative Action/Equal Opportunity Employer.

UNIVERSITY OF ILLINOIS PLANT MOLECULAR BIOLOGY/GENETICS

Department of Agronomy has two tenure-track or tenured faculty positions (rank open) in its Center of Excellence for Crop Molecular Genetics and Genetic Engineering. Appointees must develop individual and collaborative research programs in crop molecular genetics or biology. Specific areas of research undefined, but appointees must have experience in current molecular biology techniques, an interest in applying these techniques to improvement of corn or soybeans, and ability to work with multidisciplinary team on genetic improvement of these crops. At least 2 years of experience beyond Ph.D. required. Relevant research experience with corn or soybeans highly desired. Appointees must attract extramural funding, train graduate students, and teach one course per year in area of specialization. Salary and rank commensurate with qualifications and experience. Closing date: 1 October 1986. Positions available after 1 December 1986. Send curriculum vitae, college transcripts, statements of interest, and experience in teaching and research, and three letters of recommendation to: **Dr. L. E. Schrader, Head, Agronomy Department, University of Illinois at Urbana Champaign (UIUC), 1102 South Goodwin Avenue, Urbana, IL 61801. Telephone L. E. Schrader 217-333-9480 or J. M. Widholm 333-9462 for additional information. Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITIONS IN MOLECULAR BIOLOGY

The Department of Biology at the University of Virginia invites applications from molecular biologists who use modern molecular approaches to study fundamental problems in biology. Two new positions at the assistant or associate professor level are available immediately as part of an expanding program in molecular biology. Exceptional senior investigators also will be considered. Our search will consider candidates in all current areas of molecular biology including protein and nucleic acid interactions, nuclear or cytoplasmic function, and developmental and neuronal regulation. Send résumé, description of research program, summary of teaching interests, and three letters of reference by 15 November 1986 to: **Molecular Biology Search Committee, Department of Biology, University of Virginia, Charlottesville, VA 22901. Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

FACULTY POSITIONS IN ANIMAL VIROLOGY, EUKARYOTIC CELLULAR, AND MOLECULAR BIOLOGY

The Department of Microbiology and Immunology invites applications for several junior and senior, tenure-track positions focusing on significant problems in animal virology and eukaryotic cellular and molecular biology. The department, which is housed in newly renovated space, is in a major growth phase. A large center of excellence grant has resulted in establishment of a Molecular Resource Center within the department featuring state-of-the-art facilities for: DNA cloning and sequencing, oligonucleotide synthesis, peptide synthesis, hybridoma antibody production, amino acid analysis, protein sequencing, molecular graphics, and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive. Applications should consist of curriculum vitae, copies of several recent publications, a brief statement of future research goals, and three letters of reference to be sent to: **Dr. Terrance G. Cooper, Department of Microbiology and Immunology, University of Tennessee—Memphis, 858 Madison Avenue, Memphis, TN 38163.** Applications will be received until 10 October 1986 or until the positions are filled thereafter. *The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION, PATHOLOGY. Applications are invited for a clinical faculty position in the Department of Pathology at the Ottawa General Hospital, affiliated with the Department of Pathology, University of Ottawa. The applicant should be boarded in anatomic pathology and have expertise in immunopathology and interpretation of kidney biopsies. *In accordance with the Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.* Applicants should submit their curriculum vitae and the name of three references to: **Samuel W. French, M.D., Professor and Chairman, Department of Pathology, Faculty of Health Sciences, University of Ottawa, 451 Smyth Road, Ottawa, Ontario, Canada, K1H 8M5.**

THE UNIVERSITY OF MICHIGAN Department of Atmospheric and Oceanic Science FACULTY POSITION IN ATMOSPHERIC AND OCEANIC SCIENCE

Remote Sensing/University of Michigan

The Department of Atmospheric and Oceanic Science at The University of Michigan invites applications for a tenure-track faculty position in the field of satellite oceanography. The ideal candidate would be a specialist in remote sensing with experience in the study of air-sea interaction. The successful candidate will be expected to carry out an active research program and to teach at the graduate and undergraduate levels. Faculty rank and salary will be commensurate with qualifications. Send résumé, a list of three or more references, and any other relevant information to: **G. R. Carignan, Associate Chairman, Atmospheric and Oceanic Science Department, 2455 Hayward, North Campus, University of Michigan, Ann Arbor, MI 48109-2143.**

The University of Michigan is a non-discriminatory/Affirmative Action Employer.

MICROBIOLOGIST (MICROBIAL GENETICIST), announcement number D0600046, GS-403-12, Infectious Diseases Program Center, Naval Medical Research Institute (NMRI), Bethesda, MD. Salary \$31,619 to \$35,835, depending on education and experience. Interested individuals must have a strong background in bacterial genetics. Selected individual will be responsible for establishment of a research program to develop experimental systems of genetic exchange in *Campylobacter* species, and will interface with ongoing research programs on the pathogenesis, immunology, and molecular biology of *C. jejuni*. Candidates should hold a Ph.D. degree and have a minimum of 2 years of postdoctoral experience. Applicants should send their curriculum vitae, SF-171 (if available), and the names of three references to: **LTJG Sherry White, Infectious Diseases Program Center Naval Medical Research Institute, Bethesda, MD 20814-5055.** Open until filled. *NMRI is an Equal Opportunity Employer.*

Research Scientists

A Responsive Research Environment

Pioneer new discoveries in Immunological therapies.

You'll find the research environment at Schering-Plough supportive, progressive and responsive to your ideas. Our technology is totally state-of-the-art. And our commitment to R&D fosters a growing sense of freedom and accomplishments. Join a community of bold thinkers working together on some of today's most critical challenges to immunological therapeutics.

Biochemists

SENIOR SCIENTISTS—will have a Ph.D. in Biochemistry, and 1-3 years of postdoctoral experience is preferred. Qualified applicants will have experience in the purification and physicochemical characterization of proteins. Familiarity with techniques for protein structural analysis, including fluorescence, circular dichroism spectroscopy, and amino acid sequencing is desired. The successful candidates will function as members of a multidisciplinary drug discovery team and possess clear communication skills and the ability to interact personally.

SCIENTISTS—will have an MS in Biochemistry, 0-1 year's experience or BS and 1-3 years' experience. The primary responsibility will be the purification and physicochemical characterization of proteins under the supervision of a senior staff scientist. Successful applicants will be familiar with modern methodologies such as isoelectric focusing and column chromatography.

We offer competitive salary and benefits. For immediate consideration, please forward resume including salary history to: **Mr. W. A. Schall, Personnel Manager, Schering-Plough Corporation, 60 Orange Street, Bloomfield, NJ 07003.** We are an equal opportunity employer.



Schering-Plough

POSITIONS OPEN

FACULTY POSITION IN BIOCHEMISTRY

Applications are invited for a tenure-track position at the level of **assistant professor**. The requirements include a Ph.D. and/or M.D. degree with a strong background in biochemistry and evidence of excellence in biochemical research. Applicants should have an established research interest in the area of molecular biology. The successful candidate will be expected to develop a vigorous and independent research program in an area of eukaryotic molecular biology. A limited amount of teaching of Ph.D. and/or M.D. students will also be expected. The biochemistry faculty have broad research interests including gene regulation, hormone action, enzyme regulation, protein structure, and neurochemistry. A growing graduate student population affords interaction with students pursuing the doctoral degree. The Medical College has a modern campus in an attractive environment with state-of-the-art equipment in well-furnished laboratories. Applications including curriculum vitae, reprints, and a statement of planned research should be sent, preferably by 15 October 1986 to: **Chairman of the Search Committee, Department of Biochemistry, Medical College of Ohio, C.S. 10008, Toledo, OH 43699**. Candidates should also request three persons to send letters of recommendation. *Equal Opportunity Employer.*

FACULTY OPENING IN EXPERIMENTAL ASTROPHYSICS

The University of California at Berkeley

Pending budgetary approval, The Department of Physics seeks to fill a faculty position in experimental astrophysics at the **assistant professor** or tenured **associate professor** level, effective 1 July 1987, with at least several years of postdoctoral experience required. Applicants in all subfields of astrophysics will be considered, but emphasis in the search is on experience in infrared instrumentation, and research interests likely to benefit from the Keck telescope. Applicants should send curriculum vitae, bibliography, statement of research interests, and the names of three references to: **Professor John H. Reynolds, Chairman, Department of Physics, University of California, Berkeley, CA 94720**, before 1 October 1986. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR FUNGAL GENETICIST/PLANT PATHOLOGIST. Assistant professor, tenure-leading, in the Department of Plant Pathology in the area of molecular fungal genetics. Major responsibility will be for basic research on the genetics and molecular biology of plant pathogenic fungi and/or host-parasite interactions with diseases important to Nebraska's agronomic or horticultural crops. Teaching may include general plant pathology courses and a course in a specialized area. Apply by 11 November with curriculum vitae, transcripts, reprints of publications, a short presentation of a prospective research program, and three letters of recommendation to: **J. L. Van Etten, Search Committee Chair, Department of Plant Pathology, 406 Plant Sciences Hall, University of Nebraska-Lincoln, Lincoln, NE 68583-0722**. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE

Available to investigate the molecular basis of bovine leukemia virus infection. The successful applicant should have background and a keen interest in immunologic mechanisms of viral infection including cell culture and immunochemistry. Salary will be commensurate with experience and training. Send curriculum vitae outlining academic training, goals, and three letters of reference to: **Dr. Guy H. Palmer, Department of Comparative and Experimental Pathology, Box J-145, J. Hillis Miller Health Center, Gainesville, FL 32610**. *The University of Florida is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately to work on the control of bovine leukemia virus gene expression. Applicants should have experience in protein purification and immunological techniques. Send curriculum vitae and names of three references to: **Dr. P. Gupta, Department of Infectious Diseases and Microbiology, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA 15261**.

POSITIONS OPEN

MOLECULAR BIOLOGISTS, IMMUNOLOGIST, AND CHEMIST

SOUTH DAKOTA STATE UNIVERSITY in an increased emphasis on basic research, is looking for outstanding candidates with a track record in extramural funding to conduct vigorous research programs and participate in graduate training in the following fields:

One or two **MOLECULAR BIOLOGISTS** who may relate to one or more of several subdisciplines,

One **IMMUNOLOGIST** experienced in contemporary techniques, and

One **CHEMIST** with extensive industrial experience for conducting research and fostering innovative links with industry.

These tenure-track positions require a Ph.D. or equivalent degree and may be filled at any of the professorial levels. Primary emphasis is on research with minor teaching responsibilities in advanced level courses. Salary negotiable.

Brookings is an east-central South Dakota community with easy access to the university and recreational pursuits, including lakes and a sunny four-season climate. The community is recognized for its high quality of life, excellent schools, and extensive parks/recreational activities in a crime safe environment.

If these positions match your abilities and career goals, we invite you to explore our expanded research ventures. Candidates should submit résumé, description of research interests and capabilities together with the names of four references to: **Dr. C. P. Sword, Director of Research, South Dakota State University, Brookings, SD 57006**. Telephone: 605-688-4181. Deadline for application is 15 September 1986, or until positions are filled.

South Dakota State University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

MOLECULAR BIOLOGIST UNIVERSITY OF MICHIGAN

The Department of Radiation Therapy of the University of Michigan Medical School is seeking a molecular biologist to join an ongoing program investigating the molecular biology of mammalian cell response to ionizing radiation and chemotherapeutic agents. The successful candidate would be expected to spend at least 50 percent time and effort in this area. While the individual selected will be expected to develop funded research programs, ample support will be provided for a generous period of time to facilitate this. The position available is tenure-track; salary and rank are negotiable, depending on experience and ability.

Required teaching load is negligible. Collaborative opportunities with other scientists at the university are excellent. Graduate students may be available through the interdepartmental program in cellular and molecular biology.

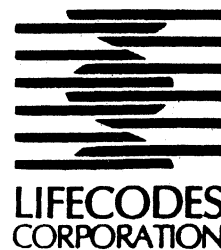
Individuals must have either Ph.D. or M.D. degrees with experience in mammalian cellular or viral molecular biology. Applicants with a background in DNA repair, carcinogenesis, oncogenes, and so forth, will be preferred. The starting date is negotiable. Applicants should send curriculum vitae, the names of four individuals who may be contacted for references, and a brief summary of research interests and/or ongoing projects to: **A. S. Lichter, M.D., Chairman, Department of Radiation Oncology, University of Michigan, 1500 East Medical Center Drive, UH-B2C490/0010, Ann Arbor, MI 48109**.

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

POSTDOCTORAL POSITION

The Growth Biology Program, Department of Animal Science, Michigan State University, seeks a postdoctoral research associate to work on muscle protein(s) gene regulation. Experience in recombinant DNA techniques, including RNA isolation, cDNA synthesis, subcloning into vectors, probe propagation, blotting, and hybridization is required. Position is available for 2 years, stipend starts at \$18,500, plus fringe benefits. Send inquiries and/or curriculum vitae and two letters of recommendation to: **Dr. W. G. Bergen, Department of Animal Science, Michigan State University, East Lansing, MI 48824-1225**.

POSITIONS OPEN



MOLECULAR GENETICIST

Lifecodes Corporation, a rapidly growing biotechnology company, seeks a molecular geneticist to develop and supervise a program for RFLP analysis of a variety of genetic disorders. Experience in diagnostic service involving molecular genetics is an advantage. Candidate should have a Ph.D., good communication and technical skills.

Lifecodes Corporation is located in Westchester, NY, only 30 minutes from midtown Manhattan.

To apply, send curriculum vitae and the names and telephone numbers of three references to:

**Peter A. Benn, Ph.D.
Lifecodes Corporation
4 Westchester Plaza
Elmsford, NY 10523**

ORGANIC CHEMISTS—Environmental Fate/Metabolism. Hazleton Laboratories America, Inc., a leading contract laboratory located in Madison, WI has two openings for project leaders in the metabolism chemistry department. These positions are involved in the following areas of research:

- ENVIRONMENTAL FATE OF PESTICIDES
- METABOLISM OF XENOBIOTICS IN BIOLOGICAL SYSTEMS

Both positions require a thorough knowledge of separation techniques and radiochemical procedures, plus a demonstrated ability to isolate and identify degradates/metabolites at the microgram level. Responsibilities include protocol preparation, report writing, interaction with clients, and some supervision of technicians. Requires a Ph.D. in organic chemistry or a B.S./M.S. with appropriate experience. Send résumé to: **Personnel Department, HAZLETON LABORATORIES, P.O. Box 7545, Madison, WI 53707**. *An Equal Opportunity Employer.*

PLANT SYSTEMATICS/EVOLUTION

The Department of Biology of the University of North Carolina at Chapel Hill invites applications for a tenure-track faculty position at the assistant or associate professor level, available July 1987. Individuals studying the systematics or evolutionary processes of higher plants using modern methods are encouraged to apply. The successful candidate will be expected to maintain a vigorous, independent research program, and to contribute to graduate and undergraduate teaching activities of the department. Send curriculum vitae, three letters of reference, and a brief description of research interests and objectives to: **Plant Systematics Search Committee, Department of Biology 010A, University of North Carolina, Chapel Hill, NC 27514**. Only applications received by 10 November 1986 can be assured of full consideration. *The University of North Carolina is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW

UNIVERSITY OF FLORIDA. Two-year postdoctoral position available immediately to investigate regulation of human HMG CoA reductase. Particular emphasis in areas of (i) hormonal/growth factor control of enzyme activity and kinetics, (ii) protein glycosylation and (iii) comparative studies in normal and dyslipoproteinemic states. Expertise in enzymology and/or protein chemistry required. Excellent opportunity to merge basic biochemical technology with applied research on human cholesterol metabolism and atherosclerosis. Send résumé to: **Peter W. Stacpoole, Ph.D., M.D., College of Medicine, Division of Endocrinology/Metabolism, University of Florida, Box J-226, JHMHC, Gainesville, FL 32610**.

SENIOR RESEARCH PHARMACOLOGIST GASTROINTESTINAL RESEARCH

The LILLY RESEARCH LABORATORIES, a division of Eli Lilly and Company, is seeking candidates for a Senior Research Pharmacologist position in the area of gastrointestinal pharmacology.

Applicants must have a doctoral degree in either pharmacology or physiology with an indepth understanding of pharmacological mechanisms involved in regulating G.I. function. Postdoctoral training employing isolated systems or animal models for the study of G.I. function is required. The candidate should have a keen interest in understanding the molecular basis of drug actions. The successful candidate will be responsible for the development of a research program aimed at the discovery of novel agents for the treatment of G.I. disease.

Qualified candidates should send their curriculum vitae to:



John W. Crooks
Manager,
College Relations (GIR)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285

Equal Opportunity Employer

Associate Director Toxicology & Pathology

The Bristol-Myers Company, a worldwide leader in the research, development, and marketing of sophisticated pharmaceutical, medical care, consumer and nutritional products, has an exceptional opportunity available for an Associate Director of Toxicology and Pathology in Syracuse, N.Y.

The successful candidate will report to the Director of Toxicology and Pathology and will be responsible for our worldwide operation including facilities in Syracuse, Evansville, IN, Wallingford, CT, France and Japan. Exposure through our research organization to all aspects of regulatory, experimental, reproductive and genetic toxicology will offer an immediate challenge in toxicologic research and the potential for continued professional growth.

The applicant most qualified to fill this very visible position should have an advanced degree in Toxicology, Pathology or Veterinary Medicine, be experienced in pharmaceutical research and, preferably, be familiar with international regulatory requirements. Because of the interaction necessary with other members of our research organization as well as outside regulatory agencies, excellent interpersonal skills, demonstrated scientific expertise, and a publications history are other required qualifications.

For confidential consideration, forward your resume, including salary history, in confidence to: **Bristol-Myers Company, Pharmaceutical Research & Development Division, P.O. Box 5100, 5 Research Parkway, Wallingford, CT 06492, Attn: Employment Department.** An equal opportunity employer.

Bristol-Myers

BURROUGHS WELLCOME CO., a producer of high quality pharmaceuticals and having a top reputation for innovative research, has immediate needs in

ORGANIC SYNTHESIS RESEARCH

If you possess the following qualifications, consider a move to beautiful North Carolina to join our research team.

Ph.D. Peptide Chemist —

We seek a highly innovative individual for a key position in a new synthesis group.

The successful candidate will collaborate with chemists and biologists on research programs in pharmacology, immunology and cell biochemistry. Responsibilities will include design, synthesis, purification and characterization of peptides.

A Ph.D. in Chemistry and at least one year of postdoctoral experience are required. Extensive experience with peptide synthesis and with a full range of chromatographic purification techniques is also essential. Familiarity with computer and instrumental methods of structure analysis would be a plus.

BURROUGHS WELLCOME CO. offers a comprehensive company-paid benefit package and a challenging and pleasant environment in which to apply your professional capabilities. To present your qualifications for the above listed opportunities, forward a curriculum vitae to: **Employment Supervisor, BURROUGHS WELLCOME CO., 3030 Cornwallis Road, Research Triangle Park, NC 27709.**

M.S. level Research Assistants —

These junior level positions are needed for conducting the synthesis and characterization of organic compounds designed to support defined programs of medicinal interest.

A M.S. in synthetic organic chemistry or a B.S. with one or more years of research experience in synthetic organic chemistry is needed for competing for these positions. A description of synthetic experience and educational transcripts will be requested of qualified individuals.



BURROUGHS WELLCOME CO.

*We encourage qualified Minority, Female,
Veteran and Handicapped individuals to apply.*



Wellcome

An Equal Opportunity/Affirmative Action Employer

VIROLOGISTS

Southern Research Institute has immediate positions available for both Ph.D. and M.S. virologists to participate in expanded research programs in antiviral drug development for government and industry. Candidates sought for regular staff positions and post-doctoral positions. Positions require a Ph.D. or M.S. in virology or other appropriate field with specialization in virology. Preference will be given to candidates with training or experience in retrovirology (especially HTLV-III/LAV virus), herpesvirus, or acute upper respiratory disease viral infections.

Research involves evaluation and development of new drugs for use in treatment of AIDS and other viral diseases. Some work will be conducted in a P-3 containment facility.

Responsibilities include work on current and anticipated research contracts and grants, supervision of junior staff members, the writing of research proposals and reports; and collaboration with other scientists in the conception, development, and performance of virus-related research programs. Opportunity available to publish and present papers at scientific meetings.

Located in a 20-acre complex with a staff of over 700, Southern Research Institute is a diversified, not-for-profit research organization in its fifth decade of operation. The metropolitan Birmingham area, with a population of approximately one million, offers a mild four-season climate, lower-than-average cost of living, many recreational and cultural opportunities, and a variety of convenient and attractive housing alternatives. **To apply, contact Denise Johnson, Personnel Administrator:**



SOUTHERN RESEARCH INSTITUTE
Personnel Office, Dept. B162
P.O. Box 55305
Birmingham, AL 35255-5305

U.S. CITIZENSHIP REQUIRED

An Affirmative Action/Equal Opportunity Employer

NATIONAL INSTITUTE OF MENTAL HEALTH POST-DOCTORAL FELLOWSHIP

Two year Research Fellowship position available for PhD in NIMH laboratory focusing on developmental psychobiology. Background in behavioral neuroscience necessary; experience with non-human primates desirable. Salary range \$17,000 to \$35,467 depending on relevant post-doctoral experience. Send letter describing research interests, curriculum vitae, and names and addresses of three references to:

Dr. Thomas Insel
Laboratory for Clinical Science
NIMH, Box 289
Poolesville, MD 20837
(301) 496-9334

*AN EQUAL OPPORTUNITY
EMPLOYER*

PLANT BIOTECHNOLOGY

The Experimental Plant Genetics Unit of The Upjohn Company has an opening for a research scientist in the general area of disease physiology or host-pathogen interactions. The incumbent will be expected to establish an aggressive research program in his/her area of expertise which will ultimately lead to increased disease resistance in vegetable or agronomic seed products. Like all Unit programs, this effort will interface with breeding projects in the Asgrow Seed Company, an Upjohn subsidiary and a world leader in the seed industry. This scientist will be a part of an established interdisciplinary group directed at improving seed products through the integration of biotechnology and breeding research.

Applicants should have a Ph.D. in plant pathology, physiology, biochemistry, cell biology, or molecular biology and direct research experience in an area appropriate to the opening. The precise disciplinary focus of the position will be determined by the skills and interests of the successful candidate, and we encourage scientists from a variety of disciplines to apply.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a mix of excellent cultural, educational and recreational pursuits, including numerous lakes and a four-season climate.

For confidential consideration, please call toll free 1/800/253-8600, ext. 3-6767, (inside Michigan call collect 616/323-6767) to request an employment application be sent to you. Please refer to Ad Number 19865-F when calling.



**A Century
of Caring**
1886-1986

An Equal Employment Opportunity Employer M/F

STRUCTURAL BIOLOGY POSTDOCTORAL CANDIDATE

At our Life Sciences Division at Los Alamos National Laboratory, we're seeking a postdoctoral candidate for our Structural Biology Program. Emphasis on neutron and x-ray scattering techniques applied to the study of biological assemblies. Possible research areas include membrane systems, protein/DNA complexes and structures in the immune system.

Strong background in physics and mathematics is desirable, computer programming expertise is required. Applicant should hold a PhD in a relevant discipline and be no more than 3 years postdegree. For further information, please contact Dr. Jill Trehwella at (505) 667-6069.

To formally apply, send resume stating research interests, Laboratory application, minimum of 3 reference letters, and graduate/undergraduate transcripts to: Carol M. Rich, Human Resources Development Division POSTDOC-B Los Alamos National Laboratory, Los Alamos, NM 87545.

An Affirmative Action/Equal Opportunity Employer



MEDICORP

a new privately held biotechnology company in Montreal with novel programs in monoclonal antibodies, tumor markers and immunodiagnos-
tics invites applicants for the position of

SENIOR RESEARCH SCIENTISTS

Highly qualified scientists are sought to play key roles in the research and development of advanced immunodiagnostic products. Candidates should have extensive experience with monoclonal antibody technology, immunochemistry and biochemistry. Experience in protein separation and immunocytochemistry would be desirable. Interest in developing research concepts into commercial products is essential.

TECHNICIANS

Applicants should be experienced technicians with a bachelors degree in biochemistry and familiarity with immunochemistry. Tissue culture and animal handling experience is useful for some positions.

Please send your resume in confidence to:

Medicorp, Inc.
Canada
P.O. Box 523
4 Farnham
Place Bonaventure
Montreal, Quebec H5A1C3

STAFF FELLOW & SENIOR STAFF FELLOW NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES

Two positions are available at the Staff Fellow or Sr. Staff Fellow levels for individuals with research experience in pharmacology, biochemistry or molecular biology. Initial appts. for 2 yrs., with addnl. extensions possible.

Staff Fellow—Requires background in chemical/biochemical pharmacology. Fellow will participate in studies of isozyme-selective suicide inhibitors of cytochrome P-4350 in mammalian lung. Ph.D. with less than 3 yrs. exp.; \$17,000-\$36,889.

Sr. Staff Fellow—Requires background in biochemistry and some exp. in molecular biology. Sr. Fellow will participate in enzymological and molecular biological studies of microheterogenous forms of cytochrome P-450 in lung & liver. Ph.D. with 3-7 yrs. exp.; \$20,688-\$41,358.

Please specify area of interest and send curriculum vitae, bibliography & 3 letters of recommendation to:

Norma Daye
NIEHS Personnel Office,
Code: HN-V242
P.O. Box 12233, Maildrop 1-01
Research Triangle Park, NC 27709
(919) 541-7810

AN EQUAL OPPORTUNITY EMPLOYER

Associate Laboratory Director

Argonne National Laboratory invites nominations and applications for the position of Associate Laboratory Director for Physical Research. This position carries leadership responsibility for Argonne's research programs in basic energy sciences (materials science, chemical science, and computer science), as well as high energy, nuclear, and atomic physics. Senior managerial responsibilities include long-range planning for the physical research programs and related large-scale research facilities, and joint responsibility for the development of multidisciplinary projects with applied science and life science programs at Argonne.

Argonne National Laboratory is one of the U.S. Department of Energy's major multiprogram research and development centers, and is operated by The University of Chicago. The research divisions which carry out the physical research program have a combined staff of about 250 Ph.D.-level scientists and 200 support personnel.

Applications are invited from individuals with a strong research background and leadership experience, and should be sent to Dr. Thomas Fields, Chair, ALD Search Committee, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, IL 60439.

Argonne is an Affirmative Action/Equal Opportunity Employer.



MOLECULAR MODELING Chemist

Sandoz Pharmaceuticals Corporation is responsible for products that improve the quality of life. Our developments are the result of research conducted by professionals who specialize in many different fields.

The Sandoz Research Institute currently seeks an experienced Molecular Modeling Chemist to organize and lead a new Molecular Modeling Unit in its Preclinical Research Division. The principal responsibility of this individual will be the development and application of innovative molecular modeling tools to assist in drug discovery, design and evaluation. The candidate should also be familiar with and experienced in molecular mechanics, graphics and quantum mechanics.

The Molecular Modeling Chemist will interact and collaborate with all key members of the research staff of Sandoz Research Institute in a variety of scientific disciplines as well as serve as a resource to provide expert guidance in the use of molecular modeling.

The candidate must have a high degree of creativeness, initiative and the leadership ability necessary to develop and apply novel approaches to problem solving in order to obtain desired results. Growth potential is considerable.

Positions at Sandoz offer personal satisfaction, professional opportunity/challenge, competitive salaries and an excellent benefits package. Our campus-like facilities are conveniently located in Northern New Jersey.

For prompt consideration, please forward your resume and salary requirements in confidence to:



Joseph P. Castellano
Director, Human Resources (403/1)
SANDOZ RESEARCH INSTITUTE
SANDOZ PHARMACEUTICALS CORPORATION
East Hanover, N.J. 07936

An Equal Opportunity Employer M/F

POSITIONS OPEN

PEPTIDE CHEMIST

The Protein Chemistry Core Laboratory of Howard Hughes Medical Institute at Columbia University seeks an individual with at least a bachelor's degree in chemistry or biochemistry for a challenging position in a state-of-the-art core laboratory involved in peptide and DNA synthesis, micro-sequencing, and amino acid analyses. This individual should have experience with automated solid phase peptide synthesis and purification of resultant peptides. The successful applicant should be able to work well in a group setting which requires meticulous attention to quality control detail and documentation. Competitive salary with excellent benefits. Send curriculum vitae and names and addresses of two references to: **Dr. Hagan Bayley, Howard Hughes Medical Institute, Columbia University, 722 West 168 Street, New York, NY 10032.**

PLANT MOLECULAR/CELLULAR BIOLOGIST

The Institute of Molecular Biology of the University of Oregon intends to fill a tenure-track position for fall, 1987 in cellular/molecular biology, probably at the assistant professor level, although senior scientists will be considered. Preference will be given to candidates using molecular/genetic approaches to understand basic cellular mechanisms in plants, but other research areas are not ruled out. Teaching will likely be in the Department of Biology although affiliation with the Department of Chemistry is possible. Applications including curriculum vitae with a summary of research goals should be sent to: **Dr. Vicki Chandler, Department of Biology, University of Oregon, Eugene, OR 97403.** The closing date is 15 November 1986. *The University of Oregon is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS IN DIABETES RESEARCH

The Julia McFarlane Diabetes Research Unit at The University of Calgary seeks new faculty members with expertise in molecular biology of the gene, as related to insulin and diabetes.

Candidates must be qualified to compete for funds from the Alberta Heritage Foundation for Medical Research or the Medical Research Council of Canada. Remuneration will be based on faculty rank salary scales at The University of Calgary. Rank will be based on qualifications and research experience. *In accordance with Canadian immigration requirements, priority is directed to Canadian citizens and permanent residents of Canada.* Deadline for receipt of applications is 15 October 1986.

Please send curriculum vitae and the names of three referees to:

**Dr. D. A. K. Roncari, Director
Julia McFarlane Diabetes Research Unit
Faculty of Medicine
Health Sciences Centre
Room 2559
3330 Hospital Drive NW
Calgary, Alberta, Canada T2N 4N1**

POSTDOCTORAL BIOCHEMIST OR PHARMACOLOGIST

Position available to begin in winter, 1987 in the Positron Emission Tomography Program at University of California, Los Angeles (UCLA) School of Medicine. We invite applications from outstanding individuals to study neurotransmitter receptor function and regulation. Applicants should have a strong background in biochemistry, neurochemistry, pharmacology, and experience with receptor systems. Send curriculum vitae, list of publications, and two letters of recommendations to: **Dr. J. R. Barrio, UCLA School of Medicine, Division of Nuclear Medicine and Biophysics, Los Angeles, CA 90024.** Salary range is \$21,900 to \$27,400, depending on qualifications, plus fringe benefits. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately for minimum of 2 years. Neuroscientist, neurophysiologist, to collaborate on research examining the role of the brainstem in modulating septohippocampal activity and brainstem control of sleep-waking states. Salary: \$17,000 to \$19,000 per year. Please send curriculum vitae and brief description of research interests to: **Dr. Robert P. Vertes, Mercer University, School of Medicine, Macon, GA 31207.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS: BREAST CANCER RESEARCH

Applicants to join an NIH research group studying experimental model systems of human breast cancer. Approaches include regulation and molecular characterization of growth factors and oncogene products in hormone-dependent and -independent breast cancer. Successful applicants will have a strong background in protein chemistry, molecular biology, or cell biology with experience in state-of-the-art techniques. Salary negotiable. Send curriculum vitae, publication list, and references to: **Dr. Marc Lippman, Medicine Branch, NCI, NIH, Building 10, Room 12N226, Bethesda, MD 20892.**

TWO POSTDOCTORAL POSITIONS IN NEUROBIOLOGY available for individuals interested in the structure and function of the benzodiazepine GABA receptor complex. Starting salary \$20,000 to \$26,000. (i) One project is for an electrophysiologist interested in the mechanism of action of benzodiazepines and beta-carbolines as modulators of GABA action in brain cell culture. Experience or willingness to learn intracellular microelectrode recording, whole cell voltage clamp, patch-clamp, and computer analysis. (ii) The second project concerns the transmembrane topology and assembly of the benzodiazepine receptor: techniques used include monoclonal antibodies, cell culture, radioligand binding, photoaffinity labeling, protein chemistry, and computer analysis. Send curriculum vitae to: **Dr. David H. Farb, Department of Anatomy and Cell Biology, State University of New York, Downstate Medical Center, Brooklyn, NY 11203.**

POSTDOCTORAL POSITIONS IN REPRODUCTIVE BIOLOGY

The University of Missouri—Columbia invites applications for three postdoctoral positions in the Food for the 21st Century Program. Applicants should have a Ph.D. degree and an interest in reproductive biology. The persons selected will work with a faculty member in the interdepartmental reproductive biology cluster group in a program aimed at improving the reproductive performance of domestic farm animals. Areas of current research include reproductive physiology, endocrinology and behavior, physiological genetics, biochemistry and molecular biology, gene transfer, and cell biology. Fellowships will start at \$18,400 per annum and will include full staff benefits. Applicants should submit a résumé and the names of three references to: **Dr. R. M. Roberts, 158 Animal Sciences Research Center, University of Missouri—Columbia, Columbia, MO 65211,** by 1 October 1986. *The University of Missouri is an Equal Opportunity Employer.*

POSTDOCTORAL POSITION: A Procter and Gamble Postdoctoral Fellowship is available for research in the development of a cytometry based immunotoxicology profile for clinical and research applications. The position is available immediately in the Department of Pathology at the University of Michigan Medical School for a person holding Ph.D., D.V.M., and/or M.D. degrees with interest and demonstrated experience and capabilities in flow cytometry and in cellular and molecular immunology. The stipend is for 1 year, with possibility of a 1 year extension. Stipend level is dependent upon experience. Please send curriculum vitae and references to: **Jerry L. Hudson, Ph.D., Cytometry Laboratories, Department of Pathology, University of Michigan Medical Center, 1500 East Medical Center Drive, Medical Science Building I, Room M2245, Ann Arbor, MI 48109-0602.** Telephone: 313-763-9420.

POSTDOCTORAL POSITION available starting September 1986 on NIH Training Grant in EXPERIMENTAL PARASITOLOGY. Candidates must be citizens or permanent residents of the United States. Experience in immunological and/or cell culture techniques is desirable. Familiarity with parasites would be useful, but is not essential. The areas of investigation will be immunology of trichomonads or African pathogenic trypanosomes or cultivation of trypanosomes. Interested persons should telephone collect: **Dr. B. M. Honigberg, 413-545-2088, Zoology, Morrill Science Center, University of Massachusetts/Amherst, MA 01003.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION to study the molecular basis of pyrimidine enzyme deficiencies associated with hereditary orotic aciduria. Research requires analysis of gene structure and expression. Experience in molecular biology and/or enzymology is preferred. Send curriculum vitae, summary of research experience, and names of three references to: **Dr. D. Parker Suttle, Division of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 322 North Lauderdale, Memphis, TN 38101.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available to study the role of testicular inhibin and steroids in the regulation of gonadotropin secretion in the male rhesus monkey. Apply with curriculum vitae to: **Dr. Tony M. Plant, University of Pittsburgh, Department of Physiology, 616 Scaife Hall, Pittsburgh, PA 15261.**

CHROMOSOME DISPOSITION IN THE NUCLEUS. A 3-year **POSTDOCTORAL POSITION** to work with **Drs. Bennett and Heslop-Harrison** on higher order genome structure using reconstructions of dividing and interphase nuclei. Involves analysis technique development, microcomputer programming, and limited electron microscopy and antibody work. A graduate research assistant is also required. Applicants may come from any field. Details from: **Personnel Officer, Ref BP, Plant Breeding Institute, Trumpington, Cambridge, England CB2 2LQ.**

POSTDOCTORAL RESEARCH ASSOCIATES

Positions for NCI postdoctoral training program in molecular and cellular mechanisms of carcinogenesis are available at The University of Texas System Cancer Center (UTSCC)—Science Park. Research programs focus on the following areas: somatic cell genetics, DNA repair and mutagenesis, carcinogen metabolism and adduct formation, tumor promotion, mechanisms of lymphomagenesis, normal and tumor cell differentiation, biochemical genetics, and growth factors. Current approaches in whole animal and in vitro culture systems include: flow cytometry (BD FACS 440), HPLC, monoclonal antibody production, Southern blot analysis and DNA sequencing, isoenzyme analyses and electron microscopy. Applicants must be U.S. citizens or permanent residents and have a Ph.D., M.D., or D.V.M. degree. For application forms contact: **Dr. Thomas J. Slaga, Director, UTSCC, Science Park—Research Division, P.O. Box 389, Smithville, TX 78957; telephone: 512-237-2403.** *An Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL POSTDOCTORAL RESEARCH IN MOLECULAR GENETICS

Our laboratory is interested in genomic alterations in human cancer and their relationship to abnormal gene expression. Studies have included alterations in allelic zygosity (*Nature* 309, 176; *Nature* 318, 377), DNA methylation (*Nature* 301, 89; *Science* 228, 187), and cellular oncogenes (*Science* 220, 1175); as well as methods of DNA labelling (*Analyt. Biochem.* 132, 6 and 137, 266). Please send a description of research interests, curriculum vitae, and names and telephone numbers of three references to: **Dr. Andrew P. Feinberg, c/o Donald H. Lentz, 3530 MSRB I, 1150 West Medical Center Drive, Ann Arbor, MI 48109.** *Equal Employment Opportunity.*

TWO POSTDOCTORAL POSITIONS are available in the Mutagenesis Section of the Laboratory of Genetics at the National Institute of Environmental Health Sciences, National Institutes of Health, Public Health Service, Research Triangle Park, North Carolina. One will focus on mutational mechanisms in phage T4, the other on DNA repair and mutagenesis in mammalian somatic cells. Salary range is from \$16,000 to \$41,358, and is commensurate with experience. Position information and qualification requirements may be obtained by contacting: **Dr. John W. Drake, Maildrop E3-01, NIEHS, P.O. Box 12233, Research Triangle Park, NC 27709.** Telephone: 919-541-3361. Please specify area of interest and send curriculum vitae, bibliography, and three letters of reference to the above address. *NIH is an Equal Opportunity Employer.*

Toxicologist

We are a leading energy company (Fortune 25) seeking an experienced Toxicologist to join our Corporate Health, Safety & Environmental Quality Staff. Responsibilities will include:

- Reviewing new products for potential toxic hazards.
- Designing experimental toxicology programs, selecting and monitoring contractors, evaluating and interpreting program results.
- Maintaining comprehensive toxicological database and related information.
- Recommending hazard assessment programs.
- Providing assessments and critiques to business and research staff groups.

The ideal candidate will have an advanced degree in Toxicology or a closely allied health science and 3 years' experience in the petroleum or petrochemical industry.

We offer a comprehensive benefit and relocation program. For consideration, send your resume and salary requirements to: Ms. Jean D. Heflich, Sr. Executive Recruiter; **THE STANDARD OIL COMPANY**; P.O. Box 94694 (7475); Cleveland, OH 44101-4694.

An Equal Opportunity Employer

STANDARD OIL

The original Standard Oil Company was founded in Cleveland, Ohio, in 1870.

The Dade division of Baxter Travenol Diagnostics, Inc. creates, manufactures, and markets a variety of diagnostic products. To support new product development for our Stratus Immunoassay System, our current needs include:

R&D SECTION HEAD

Manage the development and performance evaluation of new assays. Ph.D. in chemical or biological science, with post-doctoral and/or industrial experience in immunochemistry or biochemistry. Protein purification/characterization and immunoassay development experience preferred.

BIOORGANIC CHEMISTS/ BIOCHEMISTS

At the Senior Research Scientist level, these positions require experience in the biochemistry of proteins, and a sound knowledge of relevant methods in organic chemistry. Responsibilities include hapten derivatization and protein coupling. Ph.D. with 2-3 years academic or industrial experience preferred.

CONJUGATE MANUFACTURING MANAGER

Take charge of manufacturing conjugates for our immunoassay system. We require an MS or Ph.D. in chemistry or biochemistry. A BS with extensive experience will be considered. Experience in the preparation of haptens and antibody fragments and their coupling to proteins is desired, as is experience in manufacturing supervision.

We offer the highly advanced, stimulating environment of a company on the leading edge. We offer excellent salary and benefit package. For confidential consideration, please send your resume to: **Sr. Recruiter, Dept. S/8-29.**



Dade division of
Baxter Travenol Diagnostics, Inc.
P.O. Box 520672
Miami, FL 33152

Equal Opportunity Employer

FACULTY POSITIONS

DIVISION OF BIOLOGICAL SCIENCES UNIVERSITY OF MISSOURI-COLUMBIA

DEVELOPMENTAL BIOLOGIST PLANT MOLECULAR BIOLOGIST EVOLUTIONARY BIOLOGIST

The University of Missouri-Columbia is embarking on a multi-year effort to enhance research in the biological sciences through the **FOOD FOR THE 21st CENTURY** and **MOLECULAR BIOLOGY PROGRAMS**. The Division of Biological Sciences is central to this effort, and is pleased to invite applications for 3 tenure-track faculty appointments, available in August, 1987. The Division has established strong programs in Cell & Molecular Biology, Plant Sciences, and Evolutionary Biology and is seeking applicants who will complement the research interests of our faculty. The Division has a well funded faculty, administers an NIH Training Grant in Cellular and Molecular Genetics, and participates in a USDA National Needs Grant in Plant Molecular Biology.

DEVELOPMENTAL BIOLOGIST

The successful candidate will be expected to develop a vigorous research program in an area of Molecular Developmental Biology utilizing modern techniques such as recombinant DNA or immunological technology. Desirable areas of research include, but are not limited to: gene regulation, pattern formation, neurobiology, embryology, or basic problems in developmental biology utilizing invertebrate genetic systems. Teaching will include participation in a graduate level course in molecular biology and involvement in an undergraduate course. Available at the Junior or Senior level.

PLANT MOLECULAR BIOLOGIST

The successful candidate will be expected to develop a vigorous research program in an area of Plant Molecular Biology. Desirable areas of research include, but are not limited to: gene regulation, the molecular biology of bioenergetics or organelles such as chloroplasts & mitochondria, nuclear gene molecular genetics, and molecular developmental biology. Teaching will include participation in a graduate level course in plant molecular biology and involvement in an undergraduate course. Available at the Assistant or Associate Professor level.

EVOLUTIONARY BIOLOGIST

The successful candidate will be expected to develop a vigorous research program in evolutionary biology. Candidates with research interests in plant population biology or plant-animal coevolution are especially desirable but strong candidates in other areas of evolutionary biology will be given full consideration. Duties associated with this position include teaching of one graduate or undergraduate course per semester. Available at the Assistant Professor level.

These positions will include excellent start-up funds, laboratory space, and research support facilities.

Candidates should have a Ph.D. in an appropriate field, preferably with extensive postdoctoral training, a demonstrated record of research accomplishment in one of the three areas above and have a commitment to undergraduate and graduate teaching. Applicants for a senior-level position should have an outstanding record that includes peer reviewed grants, research publications and participation in teaching. Complete curriculum vitae, including a brief statement of research interests and the names of four references, should be sent to: **Dr. Louis Sherman, Director, Division of Biological Sciences, University of Missouri, Tucker Hall, Columbia, MO 65211.** Applications will be accepted until **October 31, 1986** or until a suitable candidate is identified.

The University of Missouri is an Equal Opportunity Employer and encourages applications from women and minorities.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE. A 2-year position is available to study the transport of secondary metabolites in cultured plant cells and explore the possibility of modifying the direction of transport by techniques such as fusion of tonoplast vesicles with protoplasts. This project is part of a study on the production of secondary metabolites by immobilized plant cells supported by the Cornell Biotechnology Institute. Send application and two letters of reference to: **Dr. R. M. Spanswick, Section of Plant Biology, Plant Science Building, Cornell University, Ithaca, NY 14853. Telephone: 607-277-2234.**

UNIVERSITY OF OTAGO DUNEDIN, NEW ZEALAND PROFESSOR IN HUMAN NUTRITION

The University of Otago invites applications for the position of professor in human nutrition in the Faculty of Home Science.

The appointee will be expected to provide academic leadership in teaching and research. All applicants are requested to indicate what aspects of nutrition they would wish to emphasize.

The successful applicant may be asked to chair the department, which is responsible for graduate and undergraduate courses in the Faculties of Science and Physical Education, as well as in home science.

Professorial salaries are fixed at various points within the range of NZ\$62,000 per annum to NZ\$77,500 per annum, and are regularly reviewed.

Intending applicants should write for further particulars available from: **D. W. Girvan, Registrar, P.O. Box 56, Dunedin, New Zealand.**

Applications quoting reference number A86/36 close in Dunedin on 1 November 1986.

RESEARCH AND DEVELOPMENT SCIENTIST

Igen, Inc., a dynamic, rapidly growing biotechnology company committed to the area of medical diagnostics is recruiting chemists and biochemists with B.S., M.S., and Ph.D., degrees. The prospective candidates with expertise in bioorganic, bioinorganic, carbohydrate and nucleic acid, and transition metal chemistry are encouraged to apply immediately. Besides excellent educational background and experience, the selected individuals will demonstrate entrepreneurial spirit and high level of commitment to the respective discovery areas. We offer a competitive salary and an attractive benefits package. Send résumé to: **Igen, Inc., 1530 East Jefferson Street, Rockville, MD 20852; Attention: Dr. Mohindar Poonian.**

Need **RESEARCH ASSOCIATE** to perform studies on developmental neurochemistry of polyamines. Contact: **Dr. Theodore A. Slotkin, Department of Pharmacology, Box 3813, Duke University Medical Center, Durham, NC 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE

Because of an expansion of our Division of Gastroenterology, an opportunity exists for a research associate to join Winthrop-University Hospital, a major teaching affiliate of Stony Brook, as director of gastrointestinal research. The successful candidate will have a Ph.D. in physiology or pharmacology, preferably with 2 years of postdoctoral research experience in studying motility of the gastrointestinal tract with in vitro and in vivo techniques. This is a hospital based position with research funds provided. We offer a professional work environment, salary commensurate with experience, and a competitive benefit package. Interested candidates should submit curriculum vitae and names of two references to: **Robert Burakoff, M.D., Chief, Gastroenterology Division, Winthrop-University Hospital, 259 First Street, Mineola, Long Island, NY 11501.**

RESEARCH INSTRUCTOR in University of Miami Department of Pediatrics, Genetics. Ph.D. in cytogenetics is sought for the development of chorion villus sampling procedure for chromosome analysis. Please send résumés to: **Herbert A. Lubs, M.D., Director, Genetics Program, University of Miami School of Medicine, Department of Pediatrics, P.O. Box 016820 (D-820), Miami, FL 33101.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE position available to study molecular mechanisms of cell killing and DNA damage by ionizing radiation. Experience in molecular biology, tissue culture, or radiation biology desirable. Dual appointment at Harvard Medical School and Massachusetts General Hospital for qualified candidate. Please send curriculum vitae and names of three referees to: **Dr. K. D. Held, Department of Radiation Medicine, Massachusetts General Hospital, Boston, MA 02114. Affirmative Action/Equal Opportunity Employer.**

UNIVERSITY OF WASHINGTON Department of Atmospheric Sciences

RESEARCH FACULTY POSITION available for scientist with experience in the use of dynamical models for long-range weather prediction or climate simulation. The successful candidate will direct a research project designed to explore the feasibility of long-range weather prediction on time scales of weeks to seasons, working in collaboration with faculty members in the Department of Atmospheric Sciences. Duties will also include supervising graduate student research and possibly some graduate instruction. The project and the director's salary will be funded through research grants. It is anticipated that the position will be filled at the research associate professor or research professor level. Ph.D. or equivalent required. Further information may be obtained by contacting: **The Chair of the Search Committee, Professor Dennis L. Hartmann, telephone 206-543-7460. Deadline for application is 15 October 1986.**

Applicants should send curriculum vitae, bibliography, description of research and teaching interests, and the names of four references to

**Professor Dennis L. Hartmann
Chair, Search Committee
Department of Atmospheric Sciences, AK-40
University of Washington
Seattle, WA 98195**

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

THE ARES-SERONO GROUP is a research-based, multinational pharmaceutical and diagnostic company with executive headquarters in Geneva, Switzerland and operations headquarters in Boston, MA.

Our laboratory facilities are located in suburban BOSTON. We are currently designing and constructing a major state-of-the-art Biotech Development Facility to evaluate, develop, and scale up recombinant products through mammalian cell culture techniques.

As a result of our growth, there exists several unique opportunities for qualified individuals who are looking for opportunity.

We seek highly motivated professional and technical personnel with above average abilities to staff these highly visible, challenging positions.

DIRECTOR PROCESS DEVELOPMENT—Ph.D., biological or chemical sciences with 10 years of experience and mammalian cell and protein purification expertise. **MANAGER OF CELL CULTURE**—M.S. or equivalent with 5 years of experience in cell culture and fermentation technology. **MANAGER OF PROTEIN PURIFICATION**—M.S. or equivalent with 5 years of experience in protein purification. **MANAGER OF ENGINEERING**—B.S. or biochemical engineering. 5 years of experience in pharmaceutical, food, or related industry. Qualified applicants should send résumé with salary requirements to: **Thomas Kelly, Jr., Manager, Compensation and Employment, Serono Laboratories, Inc., 280 Pond Street, Randolph, MA 02368. An Equal Opportunity Employer.**

RESEARCH ASSOCIATE OR RESEARCH ASSISTANT—ECOLOGICAL RISK ASSESSMENT: Identification, characterization, and classification of terrestrial ecosystems for risk assessment. Ph.D. or M.S. with experience in ecotoxicology, environmental science, or ecosystem ecology required. Available September 1986, pending final funding. Send curriculum vitae and three references to: **Dr. Mark Wilson, Botany and Plant Pathology, Oregon State University, Corvallis, OR 97331, by 12 September 1986. Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with section 504 of the Rehabilitation Act of 1973.**

POSITIONS OPEN

RESEARCH ASSOCIATE. Starting date: 1 January 1987. Candidate must hold a doctoral degree, postdoctoral experience, and expertise to develop and conduct research into some aspect of energy balance regulation including food intake control and metabolic and endocrine aspects of growth and development. Candidates should send letter of application, including career and research goals, copies of transcripts, and at least four letters of reference to: **Roy J. Martin, Department of Foods and Nutrition, University of Georgia, Athens, GA 30602. Telephone: 404-542-2551. Closing date: 1 October 1986. The University of Georgia is an Equal Employment Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE/PLANT PHYSIOLOGIST with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS). Position located at Fargo, North Dakota. Incumbent will study the temperature regulation of gibberellin metabolism in a plant that requires low temperatures for the initiation of reproductive development. Candidates must have knowledge of basic biology and physiology of problem weeds and an ability to plan and conduct experiments on the effects of thermoinductive temperatures on endogenous gibberellin levels and to adapt old or to devise new methodology. Candidates must have a recent (within 2 years) Ph.D. in plant physiology or related field and must be a U.S. citizen. Salary range of at least \$26,371 per annum. *Equal Opportunity Employer.* Send résumé to: **Dr. James D. Metzger, Metabolism and Radiation Research Laboratory, State University Station, Fargo, ND 58105; telephone 701-237-5771.** Applications will be accepted until position is filled. Applications in response to this advertisement should be marked 6-N0012.

VANDERBILT UNIVERSITY STAHLMAN PROFESSOR OF CANCER RESEARCH

Applications are invited for the position of **Stahlman Professor of Cancer Research** in the School of Medicine, a distinguished professorship held by **Dr. Lubomir S. Hnilica**, until his recent death. Candidates must have strong records of research productivity and future promise in the area of basic cancer research, and only outstanding applications will be considered for this senior position. The salary and laboratory space, equipment, and other support are negotiable. Please send correspondence including curriculum vitae to: **Dr. John H. Hash, Associate Dean for Biomedical Sciences, Vanderbilt University School of Medicine, Nashville, TN 37232.**

Equal Opportunity/Affirmative Action Employer

VETERINARY TOXICOLOGIST

The Department of Veterinary Diagnostic Investigation, University of Minnesota, has a tenure-track or tenured position at the rank of assistant, associate, or full professor available starting 1 July 1987. All ranks require D.V.M. or equivalent from foreign institution. Assistant professor requires M.S. prior to starting date, 4 years of experience and eligibility for certification by American Board of Veterinary Toxicology (ABVT). Associate professor requires Ph.D. prior to starting date, 5 years of experience in toxicology with evidence of research accomplishment, and eligibility for certification by ABVT. Professor requires Ph.D. prior to starting date, 10 years of experience in veterinary toxicology with evidence of accomplishment in research and graduate training, and Board-certification by ABVT. Qualified applicants eligible for licensure to practice veterinary medicine in Minnesota will be given preference at all appointment ranks. Duties are to coordinate a veterinary toxicology program that includes providing diagnostic service, teaching veterinary and graduate students, and providing consultation and continuing education for veterinarians. The successful candidate will be expected to conduct research and publish in the field of his/her interest. Salary commensurate with qualifications and experience. Send applications by 15 December 1986 with curriculum vitae and names and addresses of three personal references to: **Dr. R. E. Werdin, Chairman, Search Committee, Department of Veterinary Diagnostic Investigation (G), College of Veterinary Medicine, University of Minnesota, 1943 Carter Avenue, St. Paul, MN 55108. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.**

SCIENTISTS

One of the nation's leading pharmaceutical manufacturers currently has openings in the Research and Development Dept.

Sr. Project Scientist

We're seeking an individual with a PhD in Biochemistry/Immunology or equivalent to manage a department of 6, optimizing the antihemophilic factor. Only individuals with direct experience in AHF experimentation and development will be considered.

Project Scientists

Two openings exist for Project Scientists. Responsibilities include development of new products and improvement of current processes in the field of human plasma proteins, especially intravenous gammaglobulin. Must be able to plan, organize and perform experiments independently.

- The first position requires PhD or MS in Biochemistry, Biology or Chemical Engineering.
- The second position requires BS in Biochemistry, Biology or Chemical Engineering. 1-5 years experience in biological or pharmaceutical processing or immunology is preferred.

Please send your resume to **Dave Calliham, Alpha Therapeutic Corp., 5555 Valley Blvd., Los Angeles, CA 90032.** Equal opportunity employer m/f.



THERAPEUTIC CORPORATION

MOLECULAR BIOLOGISTS (Mammalian Gene Expression)

You can join one of the finest and most exciting research groups in the nation, focusing on the biology and molecular biology of tumor growth factors.

We seek Molecular Biologists with post doctoral experience in mammalian gene expression to develop mammalian cell expression systems in order to produce factors and study the biology of producer cells.

Our research facility is fully equipped and reflects a strong commitment to the research program by one of Japan's largest and most successful pharmaceutical firms. We offer a competitive compensation, a full range of benefits and an ultra-modern research environment.

Forward your cv with salary history/requirements to:

Dr. J.E. DeLarco



Otsuka Pharmaceutical Co., Ltd.

**Maryland Research Laboratories
P.O. Box 4165
Rockville, MD 20850**

*"Otsuka, people creating new products
for better health worldwide."*

An Equal Opportunity Employer, M/F

THE SCIENCE RECRUITMENT "FOUR DAY CLOSE"

NOW YOU CAN SEE YOUR AD IN **SCIENCE**
FOUR DAYS AFTER SUBMISSION

Scientific Recruiters can now advertise positions almost as soon as the need arises. Instead of reserving space a month or more in advance, you can now place your ad four days before the magazine mailing date. **SCIENCE** is mailed one week prior to cover date.

Film (right-reading, emulsion face down) or full camera ready art and insertion order must reach: **SCIENCE**, Short Close Desk, 1515 Broadway, New York, NY 10036 by NOON Mondays (except for legal holidays when material must reach New York by Noon Fridays). Because space is limited, the four-day close page will be reserved on a first-come, first-served basis, at a 15% premium.

Now you don't have to wait to find the researchers you need immediately, nor must you advertise in a Sunday paper that pans a lot of sand, but not much gold. Scientific employers know that **SCIENCE** ads fill the job better. Now they fill it faster too.

You can call it "INSTANT RECRUITMENT."

For further information, telephone Ed. Keller, Recruitment Advertising Manager, or Donna Rivera, Production Manager at **SCIENCE**: 212-730-1050, or write to: **SCIENCE**, 1515 Broadway, NY, NY 10036.

CURRENT DISTRIBUTION 160,000

POSITIONS OPEN

SENIOR SCIENTIST MICROBIOLOGIST

Washington, D.C., Metro Area

Atlantic Research Corporation, a \$230-million corporation, is seeking a senior scientist for its Environmental Science and Engineering Department.

Position requires a Ph.D. in microbiology and experience in anaerobic microbial fermentations and basic laboratory techniques. Good writing skills and ability to design, set up, and carry out research projects also required. Supervisory experience helpful.

Projects will involve a variety of research areas including conversion of coal to methane and biological cleanup of ground water.

For immediate consideration, please send your résumé in confidence to: Professional Staffing Department, DG-714 Atlantic Research Corporation, 5390 Cherokee Avenue, Alexandria, VA 22312.

ATLANTIC RESEARCH CORPORATION

An Equal Opportunity Employer, M/F/H/V

CONFERENCE

THE JULIA McFARLANE DIABETES
RESEARCH UNIT
FACULTY OF MEDICINE
WILL PRESENT
AN INTERNATIONAL CONFERENCE
ON
INSULIN ACTION AND DIABETES
26 TO 27 MARCH 1987
AT
THE UNIVERSITY OF CALGARY

The conference, designed to bring together scientists with diverse interests in insulin action and diabetes, will aim to promote small group interactions, and will aim to generate new directions for diabetes-related research. Submission of abstracts for poster presentation are invited. For further information, write to:

Dr. H. J. Goren
The University of Calgary
Health Sciences Centre
Calgary, Alberta, Canada T2N 4N1
Telephone: 403-220-6870

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN IMMUNOLOGY—Immediate openings for qualified candidates with M.D. or Ph.D. degrees and a strong commitment to research training in immunology. Candidates are encouraged to apply to: Dr. Raif Geha, Division of Immunology, The Children's Hospital, Department of Pediatrics, Harvard Medical School, 300 Longwood Avenue, Boston, MA 02115. An Affirmative Action/Equal Opportunity Employer. A background in biochemistry or molecular biology is desirable. Problems under investigation in human systems are T-cell activation and IgE regulation.

POSTDOCTORAL FELLOWSHIP IN MEDICAL PHYSICS. The Department of Medical Physics of Memorial Hospital invites applications for a postdoctoral training fellowship in medical radiological physics. This fellowship is of 2 years duration and is available to U.S. citizens or permanent residents.

The purpose of this program is to provide qualified experimental physicists with "on-the-job" and didactic training—unique to a few hospitals and which cannot be obtained in university courses in the use of radiation for diagnostic and therapeutic purposes with second year concentration on a significant research project. This will qualify them for professional responsibilities in hospitals and medical research institutions in response to a demonstrated need for medical radiation physicists capable of high standards of performance.

To apply send curriculum vitae and list of publications to: Gian D. Ragazzoni, Fellowship Program Coordinator, Department of Medical Physics Memorial Sloan-Kettering Cancer Center (MSKCC), 1275 York Avenue, New York, NY 10021. MSKCC is an Equal Opportunity/Affirmative Action Institution.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN CELLULAR IMMUNOLOGY AND HOST-PARASITE INTERACTION. A fellowship is available immediately to study the influence of the host environment on B-cell repertoire expression. Experience in tissue culture, animal work, and biochemical techniques desired. Send curriculum vitae and names of three references to: Eleanor S. Metcalf, Ph.D., c/o Civilian Personnel Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799. Curriculum vitae will not be returned. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP-ARBS CEN Cadarache, France/University of Georgia

Applications are invited for a postdoctoral fellowship jointly sponsored by the Department of Biochemistry, University of Georgia, and ARBS, CEN, Cadarache, France (1 year in France/1 year in the United States).

The successful applicant will be expected to participate in a multidisciplinary research program dealing with the physiology, biochemistry, and molecular biology of hydrogenases from the sulfate reducing bacteria and their relevance for the anaerobic corrosion of metals. The stipend is competitive and plane transportation to France will be reimbursed. Interested applicants should send a complete curriculum vitae, the names of three references, and a brief statement of research interests before 1 October 1986 to:

Professor Jean LeGall
Department of Biochemistry, G.S.R.C.
University of Georgia
Athens, GA 30602

The University of Georgia is an Affirmative
Action/Equal Opportunity Institution

POSTDOCTORAL RESEARCH FELLOWSHIPS IN THE NEUROSCIENCES—Laboratory organized 2 years ago to utilize complementary basic and clinical research to understand human neurodegenerative disorders, for example Alzheimer's disease and schizophrenia. Current group of five researchers (including two fellows) expanding to nine—one position available immediately, three after July 1987. Applicant may join ongoing research or develop own project within the general focus of the laboratory. Current research includes the use of models of brain damage in the albino rat, the evaluation of the characteristics of cultured fibroblasts derived from skin biopsies of patients with neurodegenerative disorders, and the use of monoclonal antibodies to identify and isolate important factors in brain damage. Applications entertained from individuals from diverse disciplines. Experience in neuroscience research not an absolute requirement. We are more interested in your talent and work ethic. Send curriculum vitae to: Martin R. Cohen, M.D., Chief Ensor Research Laboratory, WSHPI, University of South Carolina Department of Neuropsychiatry and Behavioral Science, P.O. Box 202, Columbia, SC 29202, or telephone: 803-734-7102.

POSTDOCTORAL FELLOWSHIPS IN VISION RESEARCH EMORY UNIVERSITY, ATLANTA, GEORGIA

Postdoctoral fellowships to begin 1 July 1987, are now being offered by the Department of Ophthalmology at Emory University in vision research. Individuals with M.D., D.V.M., and/or Ph.D. degrees are sought. The program will allow training in several research areas: immunology, pharmacology, recombinant DNA, physiology, biochemistry, physiological optics, and experimental pathology. Special emphasis will be placed upon research training in clinically relevant problems. Stipends are dependent upon the trainee's previous experience and will range up to \$30,000 per year. Applicants must be citizens or non-citizen nationals of the United States or must have been lawfully admitted for permanent residency at the time of appointment. Deadline for receipt of such applications is 15 November 1986. Applicants will be notified by 1 January 1987 of their acceptance into the program. Interested persons please contact: Dr. Henry J. Kaplan, Department of Ophthalmology, Emory University, 1327 Clifton Road, NE, Atlanta, GA 30322. Equal Opportunity/Affirmative Action Employer.

FELLOWSHIPS

LUDWIG INSTITUTE FOR CANCER RESEARCH SYDNEY CANCER THERAPY BRANCH UNIVERSITY OF SYDNEY RESEARCH FELLOWSHIPS IN CELL AND MOLECULAR BIOLOGY

Applications are invited from newly qualified and experienced postdoctoral scientists for positions in the cell biology and molecular biology groups in the above branch of the Ludwig Institute. The research activities of the branch are presently undergoing extensive reorganization under the newly appointed director of basic science and future objectives include: (i) identification and isolation from normal cells of differentiation-specific genes with antineoplastic activity using retrotransposon tagging and subtractive cDNA cloning techniques, (ii) development of retroviral vectors containing antioncogene as an approach towards gene therapy, (iii) purification of antioncogene products, and (iv) development of cancer-resistant strains of transgenic mice. [Appointments will be made at the level of Postdoctoral fellow (current salary scale A\$23,473 to A\$26,205) or research fellow (A\$27,233 to A\$35,777), depending on past experience and will be for a period of 3 years in the first instance.]

Applications in writing, enclosing a full curriculum vitae and names and addresses of three referees, should be made to: The Administrator, Ludwig Institute for Cancer Research, P.O. Box 21, Camperdown, N.S.W. 2050, Australia. Further information can be obtained from: Dr. R. F. Newbold, Director of Basic Science C/-, Institute of Cancer Research, Fulham Road, London SW3 6JB, England, Telephone 01-352-8133.

CALL FOR PROPOSALS

DYSTONIA MEDICAL RESEARCH FOUNDATION Invites Research Grant Applications

Dystonia is a symptom which occurs in several human disorders. It consists of involuntary, often prolonged muscle spasms resulting in abnormal postures. The diseases include dystonia musculorum deformans (torsion dystonia), spasmodic torticollis, writer's cramp, blepharospasm, and orofacial dystonia. Dystonia is thought to be due to basal ganglia dysfunction but pathological findings are few. Present animal models are unsatisfactory.

Research proposals on dystonia are solicited, particularly those aimed at discovering the cause or improving the treatment. Grants are typically limited to \$25,000 per year, renewable for one or two additional years. Deadline for next grant review is 15 December 1986.

For application forms, please write to: Charles H. Markham, M.D., Scientific Director, Dystonia Medical Research Foundation, 8383 Wilshire Boulevard, Suite 800, Beverly Hills, CA 90211.

ASSISTANTSHIPS

ASSISTANTSHIPS

MEDICAL SCIENTIST TRAINING PROGRAM offers assistantships for a select number of individuals for an integrated program in basic and clinical medical science leading to a combined M.D./Ph.D. degree in 6 to 7 years. Contact: Director, Medical Scientist Training Program, College of Graduate Studies, Medical University of South Carolina, Charleston, South Carolina 29425.

SYMPOSIUM

ENGINEERED ORGANISMS IN THE ENVIRONMENT: SCIENTIFIC ISSUES. Proceedings of a Cross-Disciplinary Symposium held in Philadelphia, Pennsylvania, 10 to 13 June 1985. Editors: Harly Halvorson, David Pramer, and Marvin Rogul. Publication date: December 1985, Paperback (ISBN 0-914826-83-2), including lay summary: \$18. Lay summary only: \$3. Contact: The American Society for Microbiology, Publication Sales, 1913 I Street, NW, Washington, D.C. 20006.

Recombinant DNA Research

Triton Biosciences Inc., a subsidiary of Shell Oil Company located in Alameda, is an emerging force in the development of diagnostics and therapeutics for human health care. Our Company is built upon a strong base of research expertise, solid financial support and sound management.

Research Scientists

Excellent opportunities exist for innovative PhD scientists with a minimum of 2-4 years post doctoral work or industrial equivalent in the area of recombinant DNA research. Extensive experience in one or more of the following areas: genomic and cDNA library construction, screening such libraries with DNA probes, constructing eucaryotic or procaryotic expression vector systems, small scale fermentation procedures and optimum strain-vector construction is required.

Research Associates

Requires a BS/MS with several years experience in any of the above referenced areas. As a key contributor, you will also be expected to exercise technical discretion and assist in project strategies in collaboration with others.

Triton is located in the San Francisco Bay area and offers competitive salaries and benefits including relocation assistance. For prompt consideration, please forward your C.V. along with salary requirements and the names of three references to: Triton Biosciences Inc., Box JM, 1501 Harbor Bay Parkway, Alameda, CA 94501. An Equal Opportunity Employer.



Triton Biosciences Inc.

Research Associates Drug Delivery

The Department of Drug Delivery at Smith Kline and French Laboratories, located near Valley Forge, PA, is seeking several outstanding research associates to join a multidisciplinary team interested in the optimization of drug absorption and disposition and the development of novel drug delivery systems.

Polymeric Release Systems

The successful candidate will:

- prepare and characterize polymeric devices for use with peptidergic drugs.
- determine in vitro and in vivo release profiles using appropriate analytical methodology.
- evaluate the pharmacological activities of polymer-associated drugs.

Cell Biology

The successful candidate will:

- establish and characterize in vitro cultures of polarized epithelial cells.
- participate in studies of drug transport across polarized epithelial cells.
- conduct experiments on the mechanism of transcytosis of physiological ligands.

Gastrointestinal Absorption

The successful candidate will:

- perform experiments on the site specific absorption of drugs with an emphasis on peptides and proteins using appropriate analytical methodology.
- evaluate the effect of absorption enhancers and bioadhesives on the transport of drugs across the gastrointestinal tract.
- characterize the enzyme systems that limit the absorption of peptidergic drugs.

Candidates are required to have:

- a B.S. degree plus 4 years experience or a M.S. degree plus 2 years experience in Chemistry, Biochemistry or Cell Biology.
- experience with liquid chromatographic and electrophoretic techniques.
- experience in the isolation and characterization of epithelial cell cultures.
- excellent academic and research background and clear and concise communication skills.

We offer a stimulating research environment, as well as an excellent compensation, benefits, and relocation package. Please forward your resume to George P. Kissell, Jr., Manager, Personnel Relations, SK&F Laboratories, 1598 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer M/F/H/V.

SK&F
A SmithKline Beckman Company

Productivity Personified

A new era in cell culture has arrived. Invitron's **Static Maintenance Reactor** (U.S. Patent No. 4,537,860) is the result of a 15 year marriage of cell biology with bioengineering. This revolutionary cell culture bioreactor approaches—**within a pharmaceutical environment**—the condition under which cells exist in living tissue.

Just one of these reactors has the capacity to produce multi-gram quantities of product...**everyday**...for months at a time. Annualized, this means that each reactor has **multi-kilogram** capacity.

Eighteen such reactors, each exquisitely interfaced with computer automated life support systems, are the centerpiece of our new, **million-liter** pharmaceutical manufacturing facility.

Join Us: Together we will bring your biopharmaceuticals to the marketplace.

For further information contact:



INVITRON

8000 Maryland Ave. • Suite 860
Clayton, MO 63105
314 727-8255 • 800 325-1792

