the development of the map in the retinotectal system. Cowan and Hunt provide a lucid and intellectually rigorous review of past theories and experiments concerning this system. Similar chapters in the other sections would have added depth. Fraser provides a clear model for explaining the development of the map with only four proposed interactions between retinal and tectal cells-three adhesive and one repulsive. This chapter illustrates the potential strength of a theoretical approach to developmental neurobiology. Even if one suspects that theory must be far from reality when so little is known about a system, one should enjoy Fraser's provocative thrust. Finally, chapters by Easter and Schmidt deal thoroughly with experimental results. Easter shows convincingly that retinotectal maps are plastic in the goldfish. Retinal fibers continually shift positions on the tectum as it grows asymmetrically throughout life. Schmidt presents evidence that production of the final map requires activity-dependent stabilization of synapses as well as adhesive interactions.

A section on the neural crest and the development of the periphery contains an elegant brief description of the development of neural crest progeny by Le Douarin. Though not a substitute for her recent monograph on the neural crest, Le Douarin's chapter presents a substantial revision of a major theme of that book—the pluripotency of crest cells. Some developmental capacities of early crest cells now appear to be restricted to subpopulations at earlier times than was previously appreciated. A chapter by Thiery and colleagues is a clear summary of their important work on the roles of cell adhesion and extracellular matrix molecules in directing crest cell behavior. Unfortunately, the chapter does not summarize Thiery's recent experiments in which crest cell migation in vivo has been inhibited by a synthetic peptide that blocks fibronectin function. A chapter by Gershon and Rothman provides the best introduction that this reviewer has seen to the development of the enteric nervous system, a fascinating but frequently ignored subject.

A section on the formation of neurites and synapses contains elegant papers by Letourneau and by Goodman and associates. The first describes extrinsic factors, such as adhesive molecules, electric fields, and trophic molecules, that direct the movements of neuronal growth cones in vitro. The second illustrates the power of invertebrate systems for analyzing the growth of identified neurons in vivo and the potentials of

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modern immunology and molecular biology for investigating the molecules that direct the growth. A paper by Hollyday in another section argues persuasively that the development of motor innervation in vertebrates proceeds with equally exquisite precision, probably using simi-

Some sections of the book are not well organized. The papers in the sections not discussed here are often tenuously related, and several papers would have been better placed in different sections. Inevitably, some papers are dated. For example, a paper by Edelman on cell adhesion molecules deals with only three such molecules, although recent work from his and several other laboratories makes it clear that many more adhesion molecules exist and are used by individual cells in ways that are just beginning to be appreciated. A paper by Warner on early development of the nervous system does not cover her dramatic studies with Guthrie and Gilula on the role of gap junctions. Overall, though, these are minor criticisms of an exciting and very readable book.

Louis F. Reichardt

Department of Physiology, University of California School of Medicine, San Francisco 94143

#### **Books Received**

The Biotechnology Directory 1985. Products, Companies, Research and Organizations. J. Coombs. Nature Press (Stockton Press), New York, 1985. xii, 494 pp. Paper, \$130

Bluetongue and Related Orbiviruses. T. Lynwood Barber, Michael M. Jochim, and Bennie I. Osburn, Eds. Liss, New York, 1985. xxii, 750 pp., illus. \$110. Progress in Clinical and Biological Research, vol. 178. From a symposium, Monterey, Calif., Jan.

Bone Hunters in Patagonia. Narrative of the Expedition. J. B. Hatcher. Ox Bow Press, Woodbridge, Conn., 1985. xiv, 209 pp., illus. \$24; paper, \$12.95. Reprinted from *Princeton University Expeditions to Patagonia, 1869–1899* (1903).

Bone Marrow Transplantation. Biological Mechanisms and Clinical Practice. Dirk W. van Bekkum and Bob Löwenberg, Eds. Dekker, New York, 1985. x, 546 pp., illus., + plates. \$99.50. Hematology, vol.

Brain Imaging and Brain Function. Louis Sokoloff, Ed. Raven, New York, 1985. xviii, 290 pp., illus. \$59.50. Research Publications: Association for Research in Nervous and Mental Disease, vol. 63.

Bronchial Carcinoma. An Integrated Approach to Diagnosis and Management. Michael Bates, Ed. Springer-Verlag, New York, 1984. xiv, 295 pp., illus. \$52.

Chemistry of the Prostaglandins and Leukotrines John E. Pike and Douglas R. Morton, Jr., Eds. Raven, New York, 1985. xii, 444 pp., illus. \$59. Advances in Prostaglandin, Thromboxane, and Leukotriene Research, vol. 14.

Children at Risk for Schizophrenia. A Longitudinal

Perspective. Norman F. Watt et al., Eds. Cambridge University Press, New York, 1984. xx, 658 pp., illus. \$39.50.

A Field Guide to Western Reptiles and Amphibians.
Robert C. Stebbins. 2nd ed. Houghton Mifflin, Boston, 1985. xvi, 336 pp., illus., + plates. \$17.95; paper, \$12.95. Peterson Field Guide Series.
Final Report of the United States De Soto Expedi-

tion Commission. John R. Swanton. Smithsonian Institution Press, Washington, D.C., 1985. 1xxxviii, 400 pp. Paper, \$19.95. Classics of Smithsonian 400 pp. Paper, \$19.95. Classics o Anthropology. Reprint, 1939 edition.

Flow Visualization III. W. J. Yang, Ed. Hemisphere, Washington, D.C., 1985. xiv, 889 pp., illus. \$95. From a symposium, Ann Arbor, Mich., Sept.

The Galileo Affair. A Meeting of Faith and Science. (Cracow, Poland, May 1984). G. V. Coyne, M. Heller, and J. Życiński, Eds. Specola Vatican, Vatican City, 1985. 179 pp., illus. Paper, \$9; to individuals, \$

Gas Enzymology. H. Degn, R. P. Cox, and H. Toftlund, Eds. Reidel, Boston, 1985 (distributor, Kluwer, Hingham, Mass.) x, 250 pp., illus. \$44. From a symposium, Odense, Denmark, May 1984. Genes and Membranes. Transport Proteins and Receptors. Edward A. Adelberg and Carolyn W.

Stayman, Eds. Academic Press, Orlando, Fla., 1985. xiv, 216 pp., illus. \$52. Current Topics in Membranes and Transport, vol. 23. Yale Membrane Transport Processes Volumes.

Genetics of Bacteria. John Scaife, David Leach,

Genetics of Bacteria. John Scaife, David Leach, and A. Galizzi, Eds. Academic Press, Orlando, Fla., 1985. xii, 286 pp., illus. \$59.

Intermediate Filaments. A Review. Peter Traub. Springer-Verlag, New York, 1985. x, 266 pp. \$59.

The Intertidal Wilderness. Anne Wertheim. Sierra Club Books, San Francisco, 1985. iv, 156 pp., illus. \$25; paper, \$14.95.

Intracellular Protein. Cataballar Editorial States and Protein Cataballar Protein Cataballar Protein States and Protein Cataballar Protein Cataballar Protein States and Protein Cataballar Protein States and Protein Cataballar Protein States and Protein S

Intracellular Protein Catabolism. Intracellular Protein Catabolism. Edward A. Khairallah, Judith S. Bond, and John W. C. Bird, Eds. Liss, New York, 1985. xlviii, 702 pp., illus. \$98. Progress in Clinical and Biological Research, vol. 180. From a symposium, Airlie, Va., May 1984. Mechanisms and Regulation of Carbohydrate Transport in Bacteria. Milton H. Saier, Jr. Academic Press, Orlando, Fla., 1985. xx, 209 pp. \$39. Metamorphic Reactions. Kinetics, Textures, and Deformation. Alan Bruce Thompson and David C.

Deformation. Alan Bruce Thompson and David C. Rubie, Eds. Springer-Verlag, New York, 1985. xii, 291 pp., illus. \$48. Advances in Physical Geochemis-

try, vol. 4.

Methods in Enzymology. Sidney P. Colowick and Nathan O. Kaplan, Eds. Vol. 111, Steroids and Isoprenoids. John H. Law and Hans C. Rilling, Eds. Academic Press, Orlando, Fla., 1985. xxvi, 607 pp.,

Nickel in the Human Environment, F. W. Sunderman et al., Eds. International Agency for Research on Cancer, Lyon, 1984 (U.S. distributor, Oxford University Press, New York). xxiv, 533 pp., illus. \$42.50. IARC Scientific Publications, No. 53. From a symposium, Lyon, France, March 1983. The 1985 Citizen's Guide to the Ocean.

Weber et al. Center for Environmental Education, Washington, D.C., 1985. 190 pp. Paper, \$4.95.
Non-linear Equations in Classical and Quantum Field Theory. N. Sanchez, Ed. Springer-Verlag, New York, 1985. viii, 400 pp., illus. Paper, \$26.80. Lecture Notes in Physics, vol. 226. From a seminar

Lecture Notes in Physics, vol. 226. From a seminar series, Paris, 1983–1984.

Perfect Symmetry. The Search for the Beginning of Time. Heinz R. Pagels. Simon and Schuster, New York, 1985. 390 pp., illus., + plates. \$18.95.

Phanerozoic Earth History of Australia. J. J. Veevers, Ed. Clarendon (Oxford University Press), New York, 1984. xvi, 418 pp., illus. \$75. Oxford Geological Sciences Series, 2.

The Pharmacological Effect of Lipids II. Ion J.

The Pharmacological Effect of Lipids II. Jon J. Kabara, Ed. American Oil Chemists' Society, Champaign, Ill., 1985. x, 353 pp., illus. \$45; to members, \$30. AOCS Monograph 13. From a sym-

posium, Chicago, May 1983.

Philosophy of Psychology. Daniel N. Robinson.
Columbia University Press, New York, 1985. xii, 189 pp. \$20. Critical Assessments of Contemporary

The Physics of the Quark-Gluon Plasma. Berndt Müller. Springer-Verlag, New York, 1985. viii, 142 pp., illus. Paper, \$8.70. Lecture Notes in Physics, vol. 225.

Second View. The Rephotographic Survey Project. Mark Klett *et al.* University of New Mexico Press, Albuquerque, N.M., 1985. x, 211 pp. \$65.

Sectors of Mutual Benefit in U.S.—Soviet Relations.
Nish Jamgotch, Jr., Ed. Duke University Press,
Durham, N.C., 1985. xxiv, 254 pp. \$35.
Time-Dependent Fracture. A. S. Krausz, Ed. Nijhoff, Dordrecht, 1985 (U.S. distributor, Kluwer,
Hingham, Mass.). x, 298 pp., illus. \$39.50. From a
conference, Ottawa, Canada, June 1984.
To Mock a Mockingbird. And Other Logic Puzzles

Including an Amazing Adventure in Combinatory Logic. Raymond Smullyan. Knopf, New York, 1985. x, 246 pp. \$14.95.

Trade, Tribute, and Transportation, The Sixteenth-Century Political Economy of the Valley of Mexico. Ross Hassig. University of Oklahoma Press, Norman, 1985. xvi, 364 pp., illus. \$22.95. The Civilization of the American Lettin Section 1

Civilization of the American Indian Series.

Whole Brain Thinking. Working from Both Sides of the Brain to Achieve Peak Job Performance. Jacquelyn Wonder and Priscilla Donovan. Ballantine. New York, 1985. xii, 308 pp., illus. Paper,

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Foreign Representative. American diplomat/scientist living in Switzerland; Ph.D. Princeton; would like to represent your organization abroad. Box 165, SCIENCE. X

Immunologist. Ph.D. University and industrial research background in cellular and molecular immunology, lymphokines, lymphocyte cell biology, and hybridoma/monoclonal antibody development. Excellent publications and references. Seeking responsible position in university or industry. Box 192, SCIENCE. 9/20, 27

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ASSISTANT PROFESSOR, BIOCHEMISTRY. Tenure-track position in ACS-approved, six-person department available in fall 1986. Ph.D. in biochemistry with a strong background in chemistry. Responsibilities include teaching biochemistry and participation in general chemistry service courses. Saint Mary's College is a 4-year liberal arts college for Mary's College is a 4-year liberal arts college for women with a strong commitment to teaching excellence; research is expected. New teaching/research facility will be completed in fall 1987. Résumé, transcripts, and three letters of reference should be sent by 31 October to: Dr. J. Philip Bays, Department of Chemistry, Saint Mary's College, Notre Dame, Ind. 46556. An Equal Opportunity Employer.

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A position at the ASSISTANT PROFESSOR level is available for a research scientist with a proven record of research and funding in the area of appetite regulation and psychopharmacology. Responsibility for laboratory leadership in both basic and clinical studies in the psychopharmacology of eating disor-ders. Preference will be given to individuals with experience in the area of opioid peptides and feeding behavior. Teaching at the graduate level would be desirable. Please send curriculum vitae and names of three referees to:

> Myron Winick, M.D., Director Institute of Human Nutrition Columbia University 701 West 168 Street New York, N.Y. 10032

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VISITING ASSISTANT PROFESSOR. The Department of Entomology invites applications for a 9-month nontenure-track position with optional sum-mer appointment, effective 1 January 1986. Respon-sibilities will be half-time teaching during 9-month academic year, including undergraduate and graduate courses in insect taxonomy, immature insects, and insect ecology. The successful candidate will be expected to supervise M.S. students and interact as expected to supervise M.S. students and interact as a principal investigator with an interdisciplinary research team investigating the biology of fire ants. Qualifications include a Ph.D. in entomology or closely related area, a sound background in insect identification, ecology and behavior, and experimental design and analysis. Knowledge about the application of microcomputers in agricultural research and teaching would be highly desirable. Salary commensurate with experience. Send a letter of application, complete résumé, and three letters of reference to: Dr. James Wangberg, Chairperson, Department of Entomology, Texas Tech University, Lubbock, Tex. 79409. Telephone: 806-742-2828. Deadline is 15 November 1985. Texas Tech University is an Affirmative Action/Equal Opportunity Em-

University of Florida, Psychology Department, invites nominations and applications for an ASSIST-ANT/ASSOCIATE PROFESSOR IN BEHAVIORAL NEUROSCIENCE; start date: fall term 1986. All research areas considered but preference for person who incorporates study of behavior. Women and who incorporates study of benavior. Women and members of minority groups are urged to apply. Applicants should send curriculum vitae, statement of research programs, and five letters of recommendation by 15 January 1986 to: Psychobiology Search Committee, Philip Teitelbaum, Chairman, Psychology Department, University of Florida, Gainesville, Fla. 32611.

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

ASSISTANT/ASSOCIATE PROFESSOR OF PHYSIOLOGY. Applications are invited for tenure-track appointment in the discipline of renal/cardio-vascular physiology. Applicants with Ph.D., post-doctoral experience, and a record of productivity in research should submit curriculum vitae, statement of research goals and support, a statement of teaching experience and abilities in the listed areas, and four letters of reference to: N. R. Kreisman, Ph.D., Search Committee, Department of Physiology, Tulane University School of Medicine, New Orleans, La. 70112, by 1 December 1985.

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Personnel Director New England Biolabs, Inc. 32 Tozer Rd. Beverly, MA 01915 USA



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This is an outstanding opportunity for the right individual with the potential of developing into a leadership position. The successful candidate shall have an M.D. and/or Ph.D. degree, and shall be well recognized in his or her field, with demonstrated capabilities in his/her own research and in attracting excellent associates. The selected individual will show evidence of scientific originality, innovation, independence, productivity, cooperative congenial leadership in a team environment.

Applications of candidates are requested to be submitted by 30 September. No applications will be accepted after 15 October. Required documentation is current curriculum vitae, bibliography, five selected recent reprints, and at least five prominent references, two of which may be from nonscientists, to be sent to: S. Ames Pence, Consultant/Coordinator, 121 Adams Ranch Road, Walnut Creek, Calif. 94595.

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- Research veterinarian, GS-11/13 (\$26,381 to \$48,876); knowledge of enteric bacteriology is required.

Salaries are commensurate with experience. Ph.D. is desirable. Must be a U.S. citizen. For information on the research program and/or positions, contact: Dr. C. W. Beard, telephone: 404-546-3432. For information on application procedures/forms, contact: Karen S. Johnson, telephone: 301-344-1508. Applications in response to this advertisement must be marked S-02 and received by 14 November 1985. USDA is an Equal Opportunity Employer.

Mailing address:

USDA, Agricultural Research Service Southern Region Section, S-02 Building 417, BNARC-East Beltsville, Md. 20705

#### **POSITIONS OPEN**

The Department of Biochemistry, Duke University Medical Center, invites applications for the position of ASSISTANT PROFESSOR (tenure-track). The person will be expected to establish a strong independent research program and to teach both medical and graduate students. The field of interest is open, although some preference may be given to candidates interested in structural biochemistry or molecular aspects of cell biology. Send résumé, summary of research interest, and three letters of reference by 1 November 1985 to: Robert L. Hill, Department of Biochemistry, Duke University Medical Center, Durham, North Carolina 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR. Applications are invited for a position at the level of assistant professor (tenure-track) in the Department of Chemistry at Stanford University with primary research and teaching interests in inorganic chemistry. Applicants must be strongly motivated toward creative research and have a commitment to teaching undergraduates as well as graduates. In applying, send curriculum vitae, list of publications, a brief statement of research interests (three pages or less) and, in addition, have three letters of recommendation sent to: Professor John Ross, Chairman, Department of Chemistry, Stanford University, Stanford, California 94305. Stanford is committed to Equal Opportunity through Affirmative Action in employment, and we are especially eager to identify minority persons and women with appropriate qualifications. Applications should be received by 1 November 1985.

ASSISTANT PROFESSOR OF CHEMISTRY. The Chemistry Department of Amherst College has available a regular tenure-track faculty position for a Ph.D. with a strong background and interest in experimental physical chemistry. Postdoctoral experience is desirable. The appointment, which takes effect on 1 July 1986, represents an excellent professional opportunity for a person committed to both research and teaching at an institution dedicated to the education of undergraduates. Teaching responsibilities customarily involve instruction in departmental courses at the elementary and advanced levels. Participation in interdisciplinary, extra-departmental courses and programs is also encouraged. The successful candidate will be expected to develop an active research program that encourages undergraduate participation. Applicants should submit a résumé, the names of three references, and a brief description of both teaching and research ideas to: Search Committee, Department of Chemistry, Amherst College, Amherst, Massachusetts 01002, by 1 November 1985. Amherst College is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR IN AREA OF MOLECULAR BIOLOGY. The Department of Animal Science at Iowa State University (ISU) is accepting applications for a tenure-track position in muscle biology starting after 1 January 1986. The individual will be expected to develop a research program in an area of muscle cell gene expression. A Ph.D. is required with demonstrated ability in research/teaching and experience with techniques in molecular biology of eukaryotic cells. Candidates should submit, by 30 November 1985, a résumé, bibliography, and brief description of research plans, and arrange to have three letters of reference sent to: Dr. S. A. Ewing, Head, Department of Animal Science, Iowa State University, Ames, Iowa 50011. ISU is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF WASHINGTON—Tenure-track position in plant population biology, preferably at the ASSISTANT PROFESSOR level, beginning autumn 1986. Candidates expected to develop a vigorous research program in plant population biology. Teaching will include lower division biology/botany and advanced courses in evolution and population biology. Send curriculum vitae, short statement of research goals, and three letters of reference to: Dr. M. Tsukada, Department of Botany, University of Washington, Seattle, Wash. 98195, by 31 December 1985. The University of Washington is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT RESEARCH ANATOMIST. A position is available for a cell biologist interested in studying ciliary activity in mammalian cells with experience in tissue culture, scanning electron microscopy, computer programming, and image processing techniques. Applicants should send a curriculum vitae and the names of three references to: Dr. E. R. Dirksen, Department of Anatomy, University of California, Los Angeles, School of Medicine, University of California, Los Angeles, Calif. 90024.

#### **POSITIONS OPEN**

#### ASSISTANT PROFESSOR OF MICROBIOLOGY

The Department of Microbiology, University of Illinois, Urbana, invites applications for a full-time (9 months per year) tenure-track appointment at the assistant professor level. The position is available for August 1986. Applicants must have a Ph.D. and at least 2 years of postdoctoral experience. Preference will be given to applicants who have demonstrated research competence in molecular biology and who plan to work in the general area of microbial genetics and physiology. The appointee is expected to establish a vigorous research program, to participate in undergraduate and graduate teaching, and to supervise graduate students. Salary will be commensurate with education and experience. Applicants should send curriculum vitae, a sum-

Applicants should send curriculum vitae, a summary of future research interests, and the names and addresses of three references to: Dr. A. Salyers, Department of Microbiology, University of Illinois, 131 Burrill Hall, 407 South Goodwin, Urbana, Illinois 61801. Telephone: 217-333-7378. To receive full consideration, applications should be received by 15 November 1985. Some interviews may be conducted before 15 November 1985. However, all applications that are received by that date will be given equal consideration. The University of Illinois is an Equal Opportunity/Affirmative Action Employer.

#### ASSISTANT/ASSOCIATE PROFESSOK ORAL BIOLOGY

The Department of Oral Biology at The Ohio State University (OSU), College of Dentistry, invites applications for two tenure-track positions at the level of assistant or associate professor. The department is especially interested in applicants who are committed to applying contemporary cell and molecular biological techniques to problems of early development in the cranium and cranial neural systems. Individuals are expected to develop a fundable research program and participate in the departmental instructional activities. While combined D.D.S./Ph.D. applicants are desirable, Ph.D.'s are encouraged to apply. Send curriculum vitae to: Dr. Keith E. Alley, Chairman, Department of Oral Biology, College of Dentistry, The Ohio State University, Columbus, Ohio 43210. OSU is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF ORGANIC CHEMISTRY, tenure-track. Candidates in all areas of organic chemistry, defined in the broadest sense, will be considered; excellence is the main criterion. Applicants should have the background, motivation, and ability to be a dedicated teacher and to develop a vigorous, productive research program. While it is intended that this position will be filled at the assistant professor level, an appointment at a higher level will be seriously considered. Reply to: Chairman of Search Committee, Department of Chemistry, 152 Davey Laboratory, Box B, The Pennsylvania State University, University Park, Pa. 16802, and include detailed curriculum vitae, list of publications, and description of research interests. Also have three letters of reference sent to the above. Closing date for receipt of applications is 1 December 1985. Affirmative Action/Equal Opportunity Em-

ASSISTANT SCIENTIST—Ph.D. in biochemistry or related field with 2 to 4 years of postdoctoral experience and a background in chromatin or protein biochemistry. A full-time research position in a privately funded laboratory to investigate age-related alterations in chromatin composition and structure. Send curriculum vitae, summary of research interests, and three references to: Dr. Robert T. Dell'Orco, S.R. Noble Foundation, P.O. Box 2180, Ardmore, Okla. 73402.

#### ATMOSPHERIC CHEMIST

POSTDOCTORAL POSITION available immediately to work on the Western Atlantic Ocean Experiment (WATOX) which is investigating the atmospheric flux of N and S compounds eastward from North America. Position involves aircraft- and shipbased sampling and analysis of gas and aerosol species. Send résumé and three references to: Dr. James N. Galloway, Department of Environmental Sciences, Clark Hall, University of Virginia, Charlottesville, Va. 22903.

POSTDOCTORAL/RESEARCH ASSOCIATE—Recent Ph.D. in biochemistry with an interest in chromatin structure and aging research using human diploid cells in culture. Send curriculum vitae, summary of research interests, and three references to: Dr. Robert T. Dell'Orco, S.R. Noble Foundation, P.O. Box 2180, Ardmore, Okla. 73402.



- chemistry
- earth and atmospheric sciences
- engineering, mathematics and applied sciences
- life and medical sciences
- space and planetary sciences
- physics

The National Research Council in cooperation with selected federal laboratories will offer approximately 350 awards in 1986 for independent scientific research. Recipients will be free to work on problems of their own choice as guest investigators at the participating federal laboratories. Many of the 25 programs are open to experienced senior scientists as well as to recent PhD's. Stipends begin at \$26,350 for recent graduates and are appropriately higher for seniors. Relocation reimbursement and funds for professional travel on tenure are available, and a health insurance program is offered.

For further information and application materials please write to:

Associateship Programs (JH608/S-4)

National Research Council

2101 Constitution Avenue, N.W. Washington, D.C. 20418

Deadlines for application are January 15, April 15 and August 15. Collaborative Research, Inc., is a pioneer in genetic engineering and one of the oldest companies engaged in biotechnology. Our principal focus is to provide innovative products and services for the health care and food industries through use of our established expertise in mammalian cell culture, yeast genetics, and diagnosis of inherited diseases.

Qualified scientists are invited to respond to our current opening:

#### **Cell Biologist**

Responsibilities will involve work in fermentation of mammalian cell cultures producing natural biologicals and recombinant DNA products. A PhD in the Biosciences, 1-3 years postdoctoral training and tissue culture experience are requirements for this position.

For consideration for this and other positions, please submit resume to Carol R. Yamartino, Personnel Administrator.

# COLLABORATIVE RESEARCH, INC.

128 Spring Street Lexington MA 02173 an equal opportunity employer

# BIOCHE ISTRY UNOLOGY

Seragen Diagnostics, Inc., an Indianapolis based manufacturer of instruments and reagents is seeking Senior Scientists for their immunoassay products group. These positions encompass broad responsibilities including research and development, administration and product support.

The individuals we seek should have experience in clinical immunoassay development, immobilization of biological materials and antibody production. The successful candidates should be self-motivated and goal oriented with strong oral and written communication skills. A PhD is desired, but not necessary providing stated qualifications are satisfied.

Seragen Diagnostics offers competive salary (commensurate with experience) and benefit programs. For prompt consideration, please send resume and salary history to: Personnel Manager.

Seragen Diagnostics, Inc. P.O. Box 1210 Indianapolis, IN 46206



#### **DIRECTOR OF PROCESS DEVELOPMENT**

Cetus Corporation seeks an experienced Biochemical Engineer to direct the development of processes for production of therapeutic protein products. The candidate is expected to maintain Cetus' leadership in this area. This individual will head a staff of scientists and biochemical engineers, with primary responsibility for scale-up of processes in fermentation, cell culture, and protein purification.

Demonstrated accomplishments in at least two of the above fields, as well as management experience, are required, with a typical background being a Ph.D. and at least 3 years of experience. Background in the pharmaceutical industry and familiarity with GMP are preferred. This position provides an opportunity for interaction with creative scientists in basic research areas such as molecular biology, protein chemistry, cell biology and microbial genetics in addition to collaboration with colleagues in product development and production.

Please send resume in confidence to:

CETUS CORPORATION Box PDS 1400 Fifty-third Street Emeryville, CA 94608 EOE



20 SEPTEMBER 1985

# THERAPEUTIC CORPORATION C

We are a leading manufacturer and worldwide distributor of pharmaceutical products. At this time an excellent opportunity is available for a Scientist interested in pursuing a career with a company at the forefront of plasma research.

#### RESEARCH SCIENTIST

Successful candidate will be involved in process development and scale-up from R & D and /or Pilot Plant through Manufacturing. Will also modify process documentation to fit manufacturing requirements and limitations as needed. An advanced degree in Biochemistry or Biochemical Engineering is required along with 1-2 years experience in protein fractionation, scaleup and experimental design. Strong analytical techniques are necessary.

We offer an attractive compensation and benefit package, complemented by a challenging and stimulating envi-ronment. For immediate consideration please send resume to **Dennis** Bartolotta, Manager of Employee Relations, Alpha Therapeutic Corporation, 5555 Valley Bivd., Los Angeles, CA 90032. We are an equal opportunity employer m/f.

#### **Director of Publications**

The American Society for Microbiology (ASM) has a vacancy for the position of Director of Publications. The Director is responsible for the administration of a budget of \$9,000,000 (which represents approximately 80 percent of the total ASM budget) and the management of 26 fulltime professional and 3 support staff. Major publications include 9 scientific peer-reviewed journals, the ASM News, and scientific and technical books, manuals, and monographs. The Director will be expected to work with the Publications Board of ASM in establishing editorial policy, protect the interest of ASM as a major not-for-profit scholarly publisher, and implement new technologies to facilitate the publication of the highest quality manuscripts. The Director will maintain a vigor-ous publishing program, including development of strategies for marketing and promotion.

The ASM is the oldest and largest single life science membership organization in the world. The Society serves 22 subdisciplines of the microbiological sciences. Membership exceeds 34,000.

Desired qualifications include five years or more of experience in scientific publishing of books or journals, with a concentration on the business or marketing efforts, a demonstrated record of success, and good human relations and management skills. Salary is commensurate with experience. A benefits package is provided. ASM is an equal employment opportunity employer.

Please send letter of application and a resume by 5 October 1985 to Beryl M. Boothe, Personnel Manager, American Society for Microbiology, 1913 I Street, NW, Washington, D.C. 20006. EOE M/F.

#### **POSITIONS OPEN**

BIOLOGY. Baldwin-Wallace College has a tenuretrack position available 1 September 1986. Applicants must be prepared to teach biology for the cants must be prepared to teach biology for the nonmajor student, a course in genetics, and one in molecular biology. All courses are at the undergraduate level. Excellence in teaching at this level is required. Candidates must have a Ph.D. Baldwin-Wallace College is a private, liberal arts, 4-year institution with 1750 full-time and 1200 part-time students enrolled in day, evening, and weekend programs. Letters of application and current academic résumé should be sent to: Dr. Glenn Peterjohn, Chairman, Biology Department, Baldwin-Wallace College, Berea, Ohio 44017. Salary dependent on qualifications. Equal Opportunity/Affirmative Action Employer. tion Employer.

#### CELL/MOLECULAR BIOLOGIST The Eppley Institute for Research in Cancer of the University of Nebraska Medical Center

Applications are invited for a faculty position (assistant professor) in a university-affiliated institute ant professor) in a university-ammated insurue studying various phases of the cancer problem. The Eppley Institute, which is committed to interdisci-plinary cancer research, includes biochemists, biolo-gists, chemists, nutritionists, pathologists, pharma-cologists virologists, and immunologists. We are cologists, virologists, and immunologists. We are currently seeking an individual with a research procurrently seeking an individual with a research program in carcinogenesis, membrane biology, biochemical genetics, mutagenesis, DNA repair, virology, or cell differentiation. The position is currently on the nontenure-track with the initial appointment for 3 years. The successful candidate would hold a joint appointment in a basic science department and would contribute to furthering graduate education on the UNMC campus. Interested applicants should forward complete curriculum vitae, the names of three referees, and a brief statement of their research program to:

Dr. Edward Bresnick, Director Eppley Institute for Research in Cancer University of Nebraska Medical Center Omaha, Nebraska 68105

#### CELLULAR IMMUNOLOGIST

CELLULAR IMMUNOLOGIST

The Department of Microbiology and Environmental Health, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, announces continuation of a national search for a cellular immunologist. This is a regular appointment at the assistant or associate professor level. The salary is open. Candidates for the position should be interested in joining a multidisciplinary interdepartmental group dedicated to excellence in teaching, research, and service. The applicant will be expected to develop an active research program in immunology. Specific teaching duties will include lecture and laboratory presentations for undergraduate and graduate microbiology students, and/or professional veterinary medicine students. Applicants should have a Ph.D. and/or D.V.M. degree or equivalent, and research training in cellular immunology. Post-doctoral research experience is desirable. The candidate should have the ability to pursue independent date should have the ability to pursue independent research in cellular immunology. The closing date of 1 November 1985 may be extended. Employment is to begin on or before 20 August 1986. Applications to begin on or before 20 August 1986. Applications should include curriculum vitae, statement of personal goals and objectives, and three letters of reference. Applications and inquiries should be directed to: Dr. Robert P. Ellis, Chairman of Search Committee, Department of Microbiology and Environmental Health, Colorado State University, Fort Collins, Colorado 80523.

An Equal Opportunity/Affirmative Action Employer

#### CHAIRPERSON DEPARTMENT OF IMMUNOLOGY UNIVERSITY OF WASHINGTON

The school of medicine invites nominations and applications for the chairmanship of a new Department of Immunology. Criteria for selection will include an outstanding record of basic research in immunology, strong commitment to medical and immunology, strong commitment to medical and immunology. graduate education, and the vision and academic experience to establish and lead a new department. experience to establish and lead a new department. Applications, including complete curriculum vitae and the names of three persons who will serve as references, should be sent no later than I November 1985 to: Dr. William A. Catterall, Chairman, Immunology Search Committee, Department of Pharmacology, SJ-30, University of Washington, Seattle, Wash. 98105

An Equal Opportunity/Affirmative Action Employer

#### **POSITIONS OPEN**

The Department of Zoology, University of Alberta, has a position available in the area of BOREAL ECOLOGY, preferably with interests involving research on mammals. The Department of Zoology has an active group with interests in northern ecology. Applicants should minimally have a Ph.D. degree or equivalent and postdoctoral experience, and must be highly qualified investigators capable of a vigorous independent research program. The posivigorous independent research program. The position will be tenure-track at the level of assistant professor (1985–1986 salary range, \$30,316 to \$43,780), and will commence 1 January or 1 July 1986. Applicants should forward their curriculum vitae with names of three references to: Dr. R. E. Peter, Chairman, Department of Zoology, University of Alberta, Edmonton, Alberta, Canada, T6G 2E9, by 31 October 1985.

The University of Alberta is an Equal Opportunity Employer but in accordance with Canadian immi-gration regulations priority will be given to Canadian citizens and permanent residents.

#### CLINICAL LABORATORY MICROBIOLOGIST

The Departments of Laboratory Medicine and Microbiology/Immunology in the University of Washington School of Medicine are recruiting a Boardcertified clinical pathologist for appointment as an assistant professor. Candidates should be prepared to assume responsibility for supervision of the Para-sitology Section in the Department of Laboratory sitology Section in the Department of Laboratory Medicine and for parasitology and medical microbiology components of didactic courses in the Department of Microbiology and Immunology. General competence in clinical microbiology will also be expected. Please submit curriculum vitae by 15 October to: Dr. F. Schoenknecht, Department of Laboratory Medicine, University of Washington, SB-10, Seattle, Washington 98195.

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

#### DIRECTOR OF COMPUTATION CENTER IOWA STATE UNIVERSITY

A person with demonstrated management experience is needed to provide leadership for a Computa-tion Center with approximately 100 full-time professionals, providing instructional and research computing services to a campus with 26,000 students. A large new building is being planned for the Center. Present equipment consists of an NAS 9160 mainframe with vector processing facility, several VAX-based satellite centers, and clusters of personal computers in a distributed computing environment.

Applicants should have broad interest in computer technology and preferably should qualify for senior faculty status. Position will be available due to retirement on 1 July 1986. Compensation is commensurate with responsibilities of the position.

Iowa State University provides a favorable environment for interdisciplinary research, and there are ment for interdisciplinary research, and there are many shared appointments among departments, in-cluding the Computation Center, the Administrative Data Processing Center, and University Extension. A satellite link to supercomputing facilities is planned. A new communication system handling a voice, video, and data network is being installed on

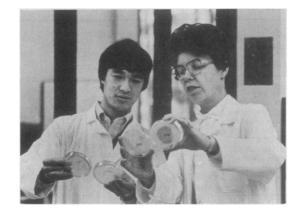
Applications deadline is 1 December 1985, or until the appointment is made. Send to:

D. J. Zaffarano Vice President for Research 201 Beardshear Iowa State University Ames, Iowa 50011

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

#### DIRECTOR OF BIOTECHNOLOGY PROGRAM UTAH STATE UNIVERSITY

Senior, established scientist is sought to lead a multifaceted research program of biological and genetic engineering in the Colleges of Science, Agriculture, Engineering, and Natural Resources. Program will build upon the existing strengths of a traditional land-grant University. Candidate must have outstanding research and grant record, extensive experience in biotechnology, and in the administration of research. Credentials appropriate for full professorship in an academic department. Discreet inquiries may be made, telephone: 801-750-2478. Submit résumé and three letters of recommendation by 15 Octomay be made, telephone: 801-730-2478. Submit resume and three letters of recommendation by 15 October 1985 to: Dean Thomas L. Isenhour, Associate Director for Biotechnology, Agricultural Experiment Station, College of Science, Utah State University, Logan, Utah 84322-5300. An Affirmative Action Equal Opportunity Employer.



# SCIENTISTS

# EXPLORE NEW REALMS OF BIOTECHNOLOGY RESEARCH.

The Agricultural Division of CIBA-GEIGY, one of the world's fore-most agricultural and specialty chemicals companies, is respected both for the quality and scope of its research and for the highly accomplished scientists it attracts. To maintain our position as an industry leader, we currently seek Scientists to join the staff at our new facility which is dedicated exclusively to agricultural biotechnology, located in the stimulating environment of Research Triangle Park, NC.

Projects in several areas at the Biotechnology Research Unit require the following individuals:

# SENIOR SCIENTISTS PLANT TISSUE CULTURE

We seek tissue culture scientists to contribute to our program on plant genetic engineering and crop improvement. Your qualifications must include a Ph.D. and a strong background in plant physiology, cell biology, genetics, phytopathology or biochemistry. In addition, we require at least two years' postdoctoral experience in plant tissue culture technologies, preferably with crop plants.

#### SENIOR SCIENTIST PLANT MOLECULAR BIOLOGY

A position is currently available for a Plant Physiologist/Biochemist capable of contributing to projects directed toward the improvement of major crop plants through molecular genetic manipulations. The successful candidate will have a Ph.D. and research experience in plant stress, plant senescence, mineral nutrition or growth regulator metabolism, including at least two years' postdoctoral experience.

# ASSISTANT SCIENTISTS ASSOCIATE SCIENTISTS

Positions are currently available for Scientists with a BS/MS in Microbiology, Genetics, Biochemistry, Chemistry, or related areas, and at least two years' experience in plant pathology, plant tissue culture, molecular biology, molecular genetics, recombinant DNA and/or DNA sequencing.

In addition, Assistant and Associate Scientist positions are available for Scientists with experience in monoclonal antibody technology. Successful candidates will possess a BS/MS in Immunology, Biochemistry or Microbiology and at least two years' experience in monoclonal antibody technology, protein biochemistry, immunocytochemistry and/or applied immunocytochemistry.

**Progress Through Innovation** 

CIBA—GEIGY

In return for your expertise, you'll receive an excellent salary and benefits package and the opportunity to contribute to a highly professional and innovative environment. For prompt and confidential consideration, forward a curriculum vitae and other pertinent information to: Dr. Mary-Dell Chilton, CIBA-GEIGY Biotechnology Research, P.O. Box 12257, Research Triangle Park, North Carolina 27709. An Equal Opportunity Employer m/f/h/v.

20 SEPTEMBER 1985

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Nominations and Applications Are Invited for the Position of

# DEAN COLLEGE OF NATURAL SCIENCE Michigan State University (MSU)

Michigan State University is a land-grant institution with 14 colleges enrolling approximately 40,000 students. The College of Natural Science consists of 19 academic units and programs in the physical, biological, and mathematical sciences, as well as the W. K. Kellogg Research Biological Station, the MSU/DOE Plant Research Laboratory, the Pesticide Research Center, and a Center for Electron Optics. The College maintains programs of instruction, research, and public service both on and off campus. The College provides instruction in the natural sciences for all University undergraduates and offers programs of study leading to the B.A., B.S., M.A., M.S., diploma for Advanced Graduate Study, and M.S., diploina for Advanced Graduate Study, and Ph.D. degrees. Currently, the College consists of about 333 tenure system faculty and 4,900 majors, about 85 percent at the undergraduate level and about 15 percent at the graduate level. The dean of the College of Natural Science is the chief executive officer of the College and is responsible to the proposet and the precident for the general

ble to the provost and the president for the general administration of the College.

Applicants must have a Ph.D. degree or its equivalent and evidence of strong accomplishment in scientific research and in administrative leadership. Candidates must meet standards for appointment at the rank of professor (with tenure) in an academic department in the College. Expected starting date is

1 July 1986 or as soon as possible thereafter. Nominations should be sent as soon as possible. Applications are preferred by 1 November 1985.

Dr. James Bath Chairperson, Search and Rating Committee Dean of the College of Natural Science c/o Office of the Provost 436 Administration Building Michigan State University East Lansing, Mich. 48824

MSU is an Affirmative Action/Equal Opportunity

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**INTERACTIONS** 

#### RESEARCH ASSOCIATE IN SEDIMENT-WATER

The Aquatic Processes and Effects Group at the Environmental Laboratory, U.S. Army Engineer (USAE) Waterways Experiment Station, Vicksburg, Mississippi, has an opening for an Intergovernmental Personnel Agreement (IPA) research position in the field of sediment-water interactions. The successful applicant will be expected to report for duty in the time frame 30 November 1985 to 31 January 1986 Applicant must have permanent covernmental 1986. Applicant must have permanent governmental or university affiliation for at least 90 days and be a U.S. citizen to be considered for this position. A strong background in chemical kinetics, with particular particular productions of the strong background in chemical kinetics, with particular productions of the strong background in the stro ular emphasis on interactions of organic contaminants with sediment, and mathematical modeling of chemical processes in sediment and aquatic environments is mandatory. Necessary qualifications include a Ph.D. or a master's degree with a minimum ctude a Ph.D. or a master's degree with a minimum of 5 years of experience. The position involves organization, direction, and conduct of basic and applied research oriented toward evaluation of the consequences of leaving contaminated sediment in place in Corps of Engineers (CE) and Superfund activities. A wide variety of environmental situations will be encountered, ranging from dredging projects to reservoir and channelization activities. The successful applicant must be able to work-official to the content of the content projects to reservoir and channelization activities. The successful applicant must be able to work effectively with an interdisciplinary group composed of sediment geochemists, sediment microbiologists, mathematical modelers, hydraulic engineers, and authorities in sediment transport. The candidate will be expected to travel and work extensively with CE Districts and Divisions. The position is for a minimum of 2 years, with a 2-year extension possible. Salary and fringe benefits will be identical to those in the applicant's present position. Position announcement closes on 15 October 1985. Submit curriculum vitae, brief statement of research interests, and three vitae, brief statement of research interests, and three letters of recommendation to: Dr. Douglas Gunnison. USAE Waterways Experiment Station, Environmental Laboratory/WESES-A, P.O. Box 631, Vicksburg, Miss. 39180.

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#### **POSITIONS OPEN**

CELL AND MOLECULAR BIOLOGY. A newly established research institute is seeking recent Ph.D.'s and M.D.'s to establish basic research programs broadly related to the diagnosis and treatment of children's diseases. Successful applicants will be offered laboratory space, seed money for research, university appointments, and renewable multiyear contracts at competitive salaries. If you think you have the qualifications, would like to see your work contribute to the welfare of children, and want to be contribute to the welfare of children, and want to be in at the beginning, please send your curriculum vitae, a letter describing your interests and goals, and the names of three references to: Dr. A. J. Kahn, Director, Pediatric Research Institute, Cardinal Glennon Children's Hospital, 1465 South Grand Boulevard, St. Louis, Missouri 63104. An Equal Opportunity Employer.

COMPLEX CARBOHYDRATE SCIENTISTS. The University of Georgia is establishing, in October 1985, the Complex Carbohydrate Research Center (CCRC). The CCRC is particularly well-equipped and well-organized for collaborative and interdisciplinary research. The CCRC will start with five faculty and about 25 members and is projected to increase in 3 or 4 years to about 15 faculty and 100 members. The CCRC is initiating a search for additional faculty in regular tenure-track positions. Rank and salary will be dependent on experience. Applications are requested in all areas of complex carbohydrate science, although the CCRC is particularly interested in applicants with expertise in: chemical synthesis, conformation analysis (computer model-COMPLEX CARBOHYDRATE SCIENTISTS. The synthesis, conformation analysis (computer modelsynthesis, conformation analysis (computer modeling), molecular biology (recombinant genetics), enzymology (endoglycanases), bioassay (of carbohydrates with regulatory properties), and immunochemistry. Applications will be accepted for an chemistry. Applications will be accepted for an indefinite period, although evaluations of those applications received will begin 1 November 1985. Applications should be sent to: Dr. Peter Albersheim, Director, Complex Carbohydrate Research Center, Richard B. Russell Agricultural Research Center, P.O. Box 5677, Athens, Ga. 30613. The University of Georgia is an Affirmative Action/Equal Connection of Equal Connections. Opportunity Employer.

#### DIRECTOR, GRADUATE PROGRAM IN CLINICAL PSYCHOLOGY

The Department of Psychiatry at the University of California, San Diego, School of Medicine, is seeking faculty candidates for the directorship of a new Ph.D. program in clinical psychology. Candidates should have career and teaching achievements and accomplishments sufficient to qualify for an appointment as a senior professor in the University of California. Strong emphasis will be placed on previous scholarly research record. Priority will be given ous scholarly research record. Priority will be given to eminent scholars who have an established international reputation in a research area which has clinical relevance. The director of the clinical Ph.D. program must be a licensed clinical psychologist and eligible for licensing in the state of California. Demonstrated administrative experience in developing and directing research and/or clinical training programs is very desirable.

Salary related to academic rank and step within the established salary schedule of the University of California, San Diego.

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

Send curriculum vitae by 15 November 1985 to:

Lewis L. Judd, M.D.
Professor and Chairman
Department of Psychiatry (M-003)
Attention: Search Committee C
University of California, San Diego
La Jolla, California 92093

#### EVOLUTIONARY BIOLOGIST

The Department of Biology at the University of Rochester invites applications for a faculty position in the general area of evolutionary biology (including in the general area of evolutionary biology (including such fields as molecular evolution, animal behavior, coevolution, and ecological genetics). Regardless of a candidate's specific interests, a strong grounding in theoretical and empirical aspects of modern evolutionary biology is expected. The level of appointment is open; applications from outstanding senior-level individuals are welcome. Postdoctoral experience is expected. ence is expected.

Please send curriculum vitae, selected reprints or manuscripts, a statement of research interests, and three letters of reference to: Dr. John Jaenike, Evolutionary Biology Search Committee, Department of Biology, University of Rochester, Rochester, New York 14627. Deadline for receipt of applications is 1 November 1985. The University of Rochester is an Affirmative Action England Concretainty Employer. Affirmative Action/Equal Opportunity Employer.

#### **POSITIONS OPEN**

# CHAIRMAN, DEPARTMENT OF NEUROLOGY UNIVERSITY OF TENNESSEE COLLEGE OF MEDICINE

Applicants should have strong credentials in the investigative, educational, and clinical arenas and should be capable of providing strong academic leadership for this clinical department. Desired starting date is 1 July 1986. Candidates are requested to submit curriculum vitae and names of three references to: Dr. Stephen T. Kitai, Chairman, Neurology Search Committee, University of Tennessee College of Medicine, 800 Madison, Memphis, Tennessee 38163. Deadline for applications is 15 October 1985.

Minority applicants encouraged to apply; the University is an Equal Opportunity Employer.

Must be committed to the University's Affirmative Action initiative.

The University of Michigan, Department of Psychiatry, has a senior tenure-track position as DIRECTOR of the Sleep Depression Unit of the Michigan perpession Program. The Unit is also an integral part of the University's Sleep Disorders Center. Responsibilities include development and leadership of the patient care, basic and clinical research, and training efforts of the unit. Position requires a commitment to and evidence of ability in sleep research with a focus on affective disorders and experience in the operation of a sleep study facility. Board-certifi-cation in psychiatry or a Ph.D. from an APA-approved clinical program and eligibility to be fully licensed in the state of Michigan are required. Candi-dates should submit curriculum vitae and the names of three references to: John F. Greden, M.D., Professor and Chairman, Department of Psychiatry, University of Michigan Medical Center, Ann Arbor, Michigan 48109. The University of Michigan is an Affirmative Action Employer. Code 80HO.

#### **ECOLOGIST**

The Department of Biology at the University of Rochester invites applications for a faculty position in the area of plant, animal, or microbial ecology. We are particularly interested in individuals who seek conceptual advances and whose work is inte-grative. The successful applicant should be able to interact extensively with a moderate-sized general biology department. The level of appointment is open; applications from outstanding senior-level in-dividuals are welcome. Postdoctoral experience is expected.

Please send curriculum vitae, selected reprints or Please send curriculum vitae, selected reprints or manuscripts, a statement of research interests, and three letters of reference to: Dr. John Jaenike, Ecology Search Committee, Department of Biology, University of Rochester, Rochester, New York 14627. Deadline for receipt of applications is 1 November 1985. The University of Rochester is an Affirmative Action English Organical Operating to Produce 1985. Action/Equal Opportunity Employer.

ELECTRICAL ENGINEER/COMPUTER SCIENTIST. The University of Georgia is establishing in October 1985, the Complex Carbohydrate Research Center (CCRC). The CCRC is particularly well-equipped and well-organized for collaborative research. The CCRC will start with five faculty and about 25 members and is projected to increase in 3 equipped and well-organized for collaborative research. The CCRC will start with five faculty and about 25 members, and is projected to increase in 3 or 4 years to about 15 faculty and 100 members. The CCRC will be equipped with nuclear magnetic resonance spectrometers, several mass spectrometers, and many micro- and mini-computers, which will interface with the University's Cyber supercomputer. The CCRC wishes to hire an individual with experience in testing and tuning high-frequency measuring instruments (for example, ultra-high field NMR and highmass mass spectrometry), thorough knowledge of analog and digital electronic techniques, and experience in programming (in assembly as well as higher level languages) using micro-, mini, and/or super-mini computers. The individual will use computers for such laboratory needs as system control and digital signal processing, for example, fast Fourier processing. This individual's primary responsibility will be to maintain (and modify) the laboratory's instruments. The successful applicant will have an interest in interacting with biologists and chemists. Annual salary (about \$40,000) will depend on training and experience. Applications will be accerted for an indefinite period, although evaluand chemists. Annual salary (about \$40,000) will depend on training and experience. Applications will be accepted for an indefinite period, although evaluation of those applications received will begin by 1 October 1985. Applications should be sent to: Dr. Peter Albersheim, Director, Complex Carbohydrate Research Center, Richard B. Russell Agricultural Research Center, P.O. Box 5677, Athens, Ga. 30613. The University of Georgia is an Affirmative Action/Faual Opportunity Employer. Equal Opportunity Employer.

## **Immunodiagnostics**

Cambridge BioScience Corporation, a biotechnology company specializing in infectious disease diagnostics offers exciting positions in its Hopkinton, Massachusetts laboratories. We are seeking advanced level scientists, research associates and production assistants.

#### **Molecular Biology**

 All levels with extensive background in recombinant-DNA, cloning and expression, minimum of 2 years academic or industrial experience.

#### Virology/Immunology

- Ph.D. level with experience in clinical virology and product development; working knowledge of molecular virology
- Research associates with experience in hybridoma development, production of monoclonal antibodies and immunoassay development
- Research associates with experience in cell culture and clinical or veterinary virology

#### **Protein Chemistry**

BS or MS level with experience in protein purification

Cambridge BioScience offers a unique and stimulating environment and close working associations with academic institutions. Qualified applicants should send resume and salary requirements to: Cambridge BioScience Corporation, Personnel Department, 35 South Street, Hopkinton, MA 01748.



#### **PROTEIN CHEMIST**

Cetus Corporation seeks a Protein Chemist to take part in isolation and characterization of rare human proteins. Research opportunities may include studies of structure/function relationships and the mechanism of action of novel proteins generated by in vitro mutagenesis of cloned genes. A Ph.D. (or MS plus extensive experience) with knowledge of protein chemistry or microisolation is required. The research objective is development of cloned human proteins for therapeutic use.

Please send your resume in confidence to:

CETUS CORPORATION
Box KKC
1400 Fifty-third Street
Emeryville, CA 94608
EOE



# SCIENCE, ARMS CONTROL & NATIONAL SECURITY

This pressing issue for all scientists is the focal point of these new titles from the American Association for the Advancement of Science:

THE VERIFICATION CHALLENGE: Problems and Promise of Strategic Nuclear Arms Control Verification, by Richard A. Scribner, Theodore J. Ralston, and William D. Metz

A broad, authoritative examination of strategic nuclear arms control verification that addresses principles and tasks of verification, technology and monitoring, compliance issues, future verification needs, and views on what constitutes adequate verification. Available from Birkhäuser Boston, November 1985; ca. 200pp., \$15. (Order from the publisher, 380 Green St., Cambridge, MA 08540)

STRATEGIC NUCLEAR ARMS CONTROL VERIFICA-TION TERMS AND CONCEPTS: A Glossary, by Richard A. Scribner and Kenneth N. Luongo

A comprehensive glossary of weapons technology, arms control, and treaty terminology. Published by AAAS (1985) 48pp., \$2.50\*.

STRATEGIC NUCLEAR ARMS CONTROL VERIFICA-TION: An Annotated Bibliography, 1977–1984, by Richard A. Scribner and Robert Travis Scott

A comprehensive, up-to-date guide to books and articles suitable for class or research use. Published by AAAS (1985) 96pp., \$7.50\*.

THE STRATEGIC DEFENSE INITIATIVE: Some Arms Control Implications, by Jeffrey Boutwell and Richard A. Scribner

Implications of SDI for the Antiballistic Missile Treaty, for nuclear arms control negotiations, for limiting antisatellite weapons, and for the NATO alliance and counteractions by the Soviet Union. Contains Congressional action recommendations. Published by AAAS (1985) 48pp., \$2.50\*.

To order these books, as well as AAAS audiotapes, educational videotapes and symposia volumes on science, arms control, and national security topics (and for discounts on quantity orders), write to:

Committee on Science, Arms Control, and National Security American Association for the Advancement of Science 1333 H Street, N.W. Washington, D.C. 20005

(\*Please include \$1.50 postage and handling per order. Allow 4-6 weeks for delivery. AAAS members receive a 20 percent discount on listed prices.)

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Every day **Abbott Laboratories** is creating new innovations. Then we follow those with newer developments. Our varied products have one thing in common. They all bear our quality standards and success in the marketplace. We've fused diverse interests into one \$3.1 billion leading corporation that continues to excel. So whether your scientific discipline is chemical or biological...no matter where your day begins.. we can position you for the future. And a promising one at that.

# DIAGNOSTICS DIVISION – ABBOTT PARK, CHICAGO

It's early morning and one of our diagnostic scientific teams is developing and testing immunoassays in a continuation of our highly-publicized AIDS research. It's the beginning of a day in new discoveries for Abbott. Find out where you fit in.

#### **Biochemist**

Research and development of automated and non-isotopic immunoassays are the primary responsibilities of this position. A Ph.D. or equivalent in Biochemistry, Immunochemistry or Protein Chemistry is essential. This candidate should have a strong technical background with experience in immunoassay development with non-isotopic methods preferred. Experience in endocrinology is also useful. Postdoctoral or industrial experience is a plus. Reply to Dept. B.

#### **Clinical Chemist**

Duties of this position include research and development of clinical chemistry assays. Precision, optimization, stability and interference studies will be performed. Some supervisory tasks may be required. This individual should have a Ph.D. in Biochemistry or an M.S. in Biochemistry with experience. Enzymology experience is desired and clinical chemistry background a plus. **Reply to Dept. CC.** 

#### **Protein Chemist**

Qualifications include an M.S. in Biochemistry and experience in protein chemistry with emphasis on the conjugation of protein to enzymes. Working knowledge of ELISA's also needed. Reply to Dept. PC.

#### Molecular Biologist

To direct our research/development effort for the expression of foreign genes in E. coli, this candidate must have a minimum of 2 years of postdoctoral experience in expression technology. A strong background in bacterial genetics/physiology is desirable. Supervisory experience is useful. Interaction with a multidisciplinary group of scientists is necessary.

Reply to Dept. MB.

#### **Associate Molecular Biologist**

This is a support position for our Expression Program in yeast and E. coli requiring an M.S. in Molecular Biology or a Bachelor's degree with relevant research experience in prokaryotic/eukaryotic cell expression systems. Demonstrated experience in cloning techniques necessary; experience in expression assay technology is desirable. Reply to Dept. AMB.

CHEMICAL &
AGRICULTURAL
PRODUCTS DIVISION ABBOTT PARK, CHICAGO

It's mid-afternoon, a developmental scientist has initiated the creation of an environmentally-safe biological insecticide. As he contributes to superior product research, he helps Abbott to progress. Choose your field to make an impact.

#### Sr. Scientist - Fermentation

This position involves developing manufacturing processes in the lab and pilot plant scale for new fermentation products. The selected candidate will be expected to improve existing processes, troubleshoot, provide tehcnical support for manufacturing, and initiate and implement experimental designs and projects. A minimum of an M.S. in Biochemistry, Chemistry or Chemical Engineering is required. Hands-on fermentation recovery experience and familiarity with experimental design and analysis are essential.



Scientists — Pharmaceuticals

Developing and evaluating the commercial scale chemical manufacturing processes for fine pharmaceuticals and organic chemicals are the primary responsibilities of these positions. Other duties include process improvements, cost reductions in manufacturing and supervision of chemical operators and technicians. Solid knowledge of organic chemistry, synthesis chemistry, and modern analytical techniques and pilot and manufacturing operations is required. Excellent communicators with a Ph.D. in Chemistry or the equivalent and good technical skills are ideal. Reply to Dept. SP

### **Developmental Scientists** — **Peptides**

As members of the peptide development team, these positions troubleshoot and provide process support for the processes in the pilot plant and manufacturing areas. Duties also include the development of chemical processes for the production of new peptide pharmaceutical products and cost reductions in manufacturing. A Ph.D. in Chemistry or the equivalent along with laboratory and pilot plant experience is required. Knowledge of organic synthesis and the latest analytical techniques is a must. A background in peptide chemistry and scale-up of chemical processes is preferable.

Reply to Dept. DP.

### Developmental Scientist — Virology

This individual will be responsible for virus production from development through manufacturing. This is a position with increasing challenge and responsibility. To meet those demands, the candidate should have significant virology experience and be familiar with Southern Blot techniques, virus neutralization assays and related virus technology. 2-3 years of independent research experience with emphasis in protein chemistry, chromatography and process maintenance are required. Reply to Dept. DV.

#### **Formulation Chemists**

These two positions include one Formulation Research Chemist in controlled release technologies and one Formulation Chemist in wettable powders, granules, pellets, flowables and emulsifiable concentrates. Both will be involved in novel formulations and applications for existing and new microbial and organic pesticides and plant growth regulators. Assignments involve formulation conception laboratory development, biological and physical testing and pilot scale-up studies for efficient and economic manufacturing. A Ph.D./M.S. in Chemistry or Biological Sciences and 3-5 years experience in novel pesticide formulation development and application technologyare required. For the research scientist, previous experience in controlled release technologies is strongly preferred. For the other position, experience in the formulation of microbial pesticidal products is desirable. Applicants with other related product development experience will be considered Reply to Dept. FC.

These positions are headquartered at our corporate location in an attractive suburban setting, just 30 miles north of Chicago. For confidential consideration, send resume with salary history, noting the appropriate department number, to: Sue Hart-Wadley/Corporate Placement, Abbott Laboratories, Abbott Park, IL 60064.

Almost time to call it a day as a research chemist prepares assays for use in the development and test of an advanced electronic diagnostic instrument tool for hospital and clinical labs. The day might come to a close, but our opportunities remain wide open. Join our Dallas team.

#### **Biochemist**

The ideal candidate will have a Ph.D. and 0-5 years experience in Physical or Life Sciences; M.S. degree plus experience is acceptable. Skills in quantitative analysis, kinetics, and instrumentation desirable. Some knowledge of computer systems helpful. This is primarily a bench-level position involving clinical chemical assay development.

#### Chemist

Qualified applicants will have a B.S. degree with 0-5 years experience in Physical or Life Sciences. Skills required include quantitative analysis and instrumentation, with some knowledge of computer systems beneficial. Position involves clinical chemistry assay development.

These positions are located at our modern, state-of-the-art facility. For confidential consideration, send resume with salary history to: Personnel Department, Abbott Diagnostics Division, 1921 Hurd Drive, P.O. Box 152020, Irving, TX 76015.

Abbott continues to win recognition as a successful research-driven organization with a wide variety of diversified interests. We can offer the research scientist top notch facilities and equipment and the freedom to explore. We also offer an excellent salary and benefits package including profit sharing and stock retirement plan.

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20 SEPTEMBER 1985

# Research Opportunities

Genentech, Inc., a leader in the field of biotechnology, located on the San Francisco Peninsula, has openings for Scientists in the Molecular Biology and Assay Development Departments.

#### Molecular Biology

This position represents a link between molecular biology research in the area of growth factors and receptors and the tissue culture system development and yield improvement group. The individual will employ cloned genes to investigate mechanisms of receptor function, mammalian cell proliferation and transformation.

# Assay Development

You will design in vitro bioassays in an interdisciplinary effort to investigate biological mechanisms underlying growth factor and receptor function.

Successful candidates will have at least 2 years of postdoctoral experience in mammalian cell culture and cell biology in addition to strong communication skills.

# Postdoctoral Researchers

Our Molecular Biology Department has openings for Post-doctoral Researchers to perform basic research in the following areas: oncogenes and growth factors, eukaryotic gene expression, lymphokines and neurobiology. Successful candidates will have a PhD in Molecular Biology, Biochemistry, or another relevant degree with a record of scientific excellence throughout their graduate work.

Genentech offers an excellent compensation and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send resume to Human Resources Department EM, Genentech, Inc., 460 Pt. San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.



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#### **POSITIONS OPEN**

#### CURATOR—MAMMALOGY The American Museum of Natural History

The Department of Mammalogy invites applications for a tenure-track curatorial position in mammalogy. A prime requisite is independent and vigorous collection-oriented research in systematic mammalogy, including an ability to apply the results of systematic investigations to problems in phylogenetic reconstruction, evolutionary theory, functional morphology, biogeography, behavior, and natural history. Each applicant must also have a strong publication record, and a willingness to assume an active role in curation and augmentation of existing mammal collections through active and competent field investigations. It is further expected that the successful applicant will participate in Museum committees, in the Museum's exhibition program, and in appropriate professional societies. The applicant should have the ability or potential to assume the chairmanship of the Department of Mammalogy at some point in ins/her career. The position is available after February 1986. The successful candidate must have completed all requirements for the Ph.D. by time of appointment. Applications should include: (i) a statement of research interests and professional goals; (ii) curriculum vitae; (iii) complete bibliography; and (iv) the names, addresses, and telephone numbers of at least five persons familiar with the applicant's qualifications. Applications must be submitted by 15 December 1985 to: Dr. Guy G. Muser, Chairman of Search Committee, Department of Mammalogy, The American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024. An Equal Opportunity/Affirmative Action Employer, M/F/H.

#### ATTENTION ENVIRONMENTAL AND COMPUTER SCIENTISTS!

The U.S. Environmental Protection Agency (EPA) is soliciting applications for a position in the Office of Information Resources Management at our head-quarters in Washington, D.C. This position requires someone with the ability to do creative work in the analysis of the synthesis, transport, transformation, and fate of pollutants in the environment by devising and writing original, innovative computer programs using a high-level language (for example, PL/I), an IBM mainframe, TSO and high-resolution color graphics terminals. This position is for someone who is familiar with address manipulation, dynamic allocation of main storage and datasets, and inverted files, as he or she is with the science of environmental processes. Status and nonstatus candidates will be considered. The grade/salary range is GS-7 (\$17,824) through GS-13 (\$48,876), depending upon your experience. Send a completed SF-171, Personal Qualifications Statement, to: Robert Greenspun, Environmental Protection Agency, Mail Code PM-218B, 401 M Street, SW, Washington, D.C. 20460, by 15 October 1985.

#### U.S. citizenship is required.

 $\it EPA$  is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION—PHYSIOLOGY. The Department of Physiology and Biophysics, University of Southern California School of Medicine, invites applications for a senior-level tenure-track position. We seek an individual who applies modern mathematical and computational techniques to experimental problems in either cellular or systems physiology. Send curriculum vitae, a summary of current research interests, and names of references to: Dr. Donald J. Marsh, Department of Physiology and Biophysics, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles, Calif. 90033. USC is an Equal Opportunity/Affirmative Action Employer.

Tenure-track FACULTY POSITION available for computer scientist with specialization in both integer factorization and information retrieval. Ph.D. in computer science or related area and good research/funding record required. Must be able to teach basic computer science courses and guide graduate students. Appointment for January 1986. Applications will be reviewed 15 November. Rank and salary negotiable. Forward résumé and three references to: Robert Kelman, Search Committee Chairman, Department of Computer Science, Colorado State University (CSU), Ft. Collins, Colo. 80523. CSU is an Equal Opportunity/Affirmative Action Employer. Equal Opportunity Office: 314 Student Services Ruilding.

#### **POSITIONS OPEN**

EPIDEMIOLOGIST, a tenure-track position is available 1 February 1986. A Ph.D. in plant pathology or a related field is required. Submit curriculum vitae, transcripts, three letters of reference, and a statement of professional goals no later than 1 November 1985 to: Dr. Kenneth E. Conway, Chairman, Search Committee, Department of Plant Pathology, Oklahoma State University, Stillwater, Okla. 74078. Oklahoma State University is an Equal Opportunity/Affirmative Action Employer.

The School for Field Studies (SFS) seeks FACULTY for undergraduate courses combining academics and environmental field research at remote sites worldwide. Semester and 1-month summer courses. Qualifications: Field leadership and research experience, outstanding undergraduate teaching skills, M.S. or Ph.D., and familiarity with research site; \$1000 to \$1500 per month plus travel/field costs. Send curriculum vitae, letter, and three references to: Director, Programs, SFS, 196 Broadway, Cambridge, Mass. 02139.

FACULTY POSITION available tenure-track in molecular genetics, with a special interest in membranes. Applicants should have research background in recombinant DNA technology (preferably also in somatic cell genetics) and working knowledge of membrane proteins. M.D. and/or Ph.D. in appropriate field required. Successful candidate will hold tenure-track appointment (assistant or associate professor, depending upon qualifications) in Department of Physiology and Molecular Biophysics at Baylor College of Medicine. Joint appointments in relevant academic departments also possible. Laboratory space and basic equipment provided and initial laboratory support available. Successful candidate will devote majority of his/her effort to establishing and maintaining an independent research program related to the main interests of the department. The department is building a strong program in membrane biophysics with expertise in electrophysiology, membrane biochemistry, reconstitution, and modeling. Send curriculum vitae, a brief description of past and present research experience, and names of three or more references to: Dr. A. M. Brown, Incoming Chairman, Physiology and Molecular Biophysics Department, Baylor College of Medicine, One Baylor Plaza, Houston, Texas 77030. An Equal Opportunity/Affirmative Action Employer.

#### TWO FACULTY POSITIONS

The Department of Microbiology seeks applicants for two tenure-track positions at the assistant/associate professor levels. Preference will be given to applicants with research interests in the area of MICROBIAL PATHOGENIC MECHANISMS or in IMMUNOLOGY. Strong applicants in related areas are also encouraged to apply. Applicants must have postdoctoral training. The successful candidates will be expected to establish an active research program and participate in graduate and undergraduate teaching. Applicants should submit curriculum vitae, statement of research interests and professional objectives, and names of three references to: Dr. Louis P. Mallavia, Chairman of Search Committee, Department of Microbiology, Washington State University, Pullman, Wash. 99164-4340. Application deadline: 1 December 1985. Washington State University is an Equal Opportunity Employer.

#### FACULTY POSITION IN PHARMACEUTICS

The Washington State University, College of Pharmacy, has available an annual appointment, tenuretrack, assistant/associate/full professor-level position. A professional degree in pharmacy is preferred and a Ph.D. in pharmaceutics or a related discipline is required. Postdoctoral experience is desirable at the assistant professor level. Associate or full professor level candidates must provide evidence of productive research. The candidate should have a strong background in physical pharmacy, biopharmaceutics, or pharmacokinetics. The position will involve teaching pharmaceutics to professional pharmacy students and teaching and direction of graduate students in the pharmacology/toxicology graduate program. Development of a vigorous independent research program is expected. Salary and rank will depend on qualifications and experience of the candidate. Send a letter of application, curriculum vitae, a summary of research interests, and three letters of recommendation to: Dr. William L. Hayton, College of Pharmacy, Washington State University, Pullman, Wash. 99164–6510; telephone: 509-335-5622. Applications are due by 15 January 1986. Washington State University is an Equal Opportunity/Affirmative Action Employer.

# **EXECUTIVE** DIRECTOR

# Aquatic Habitat Institute San Francisco Bay Area

The Aquatic Habitat Institute, an independent, non-profit, public corporation created in 1983 to analyze the effects of pollutants on the San Francisco Bay/Estuary, is seeking its first Executive Director. In addition to conducting primary research, the Institute will coordinate research of other agencies and develop a Bay-wide database.

Unique opportunity for a dynamic leader with advanced degree in science or engineering and minimum 5 years experience in water quality management or closely-related research. PhD preferred. Minimum negotiable salary expected to be \$60,000.

Contact for information packet: Norma Hoshide, Personnel, P.O. Box 24055, Oakland, CA 94623, (415) 891-0606 or send resume with salary history in confidence to: AHI, c/o Dr. Terry F. Young, PhD 2606 Dwight Way, Berkeley, CA 94704. Contact by September 30, 1985.

An Equal Opportunity Employer.

# Hybridization Technology

GIBCO/BRL is expanding its commitment to research and development of novel technologies related to nucleic acid hybridization and detection. Current requirements include a group leader, staff scientists and technicians.

Ph.D.'s should have several years experience in hybridization technology, nucleic acid chemistry, gene cloning or microbiology.

B.S. and M.S. candidates should have familiarity with DNA hybridizations and related techniques.

These new positions offer an opportunity to play an important part in the success of this specialized research. If you're interested, please send your resume, in confidence to:

Mr. Wayne E. Fowler **GIBCO/BRL Division** 

Life Technologies, Inc. Box 6009, 8717 Grovemont Circle Gaithersburg, MD 20877

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# Senior Scientists Atherosclerosis Research

CIBA-GEIGY Corporation, a world leader in the cardiovascular field, has a long standing commitment to innovative scientific research. We are currently looking for two senior scientists to join our new atherosclerosis research team. Candidates will possess an MD or PhD with a minimum of two years' postdoctoral experience in the atherosclerosis field.

Altered Cell Identification - Dept. 323

Responsibilities of the position include developing techniques to identify altered cells within the vascular wall and establishing new in vivo models in order to identify compounds targeted to specific components of the vascular lesion. Experience in morphological techniques such as immunohistochemistry and autoradiography is also desired.

Lesion Progression
Cell Accumulation - Dept. 322

The successful candidate will be responsible for developing noninvasive techniques which measure le-

sion formation and regression and/or cell accumulation in the vessel wall. You will also be expected to develop new in vivo models of atherosclerosis and/or angioplasty.

At CIBA-GEIGY's Pharmaceuticals Division you'll find a research environment which encourages collaboration, innovation and publication. We offer an excellent salary and benefits package, relocation assistance and the resources and commitment of a multibillion dollar, multinational organization involved in on-going research. Our location is in a convenient suburban area within one hour of New York City. For prompt and confidential consideration, please forward your CV, including salary requirements to: Manager of Technical Staffing, The Pharmaceuticals Division, CIBA-GEIGY Corporation, Dept. 322 OR Dept. 323, 556 Morris Avenue, Summit, NJ 07901. We are an equal opportunity employer m/f/h/v.

CIBA—GEIGY

**Progress Through Innovation** 

20 SEPTEMBER 1985 1309

#### The Future in Science

Genetic Systems Corporation, located in Seattle, Washington, is a leader in the field of biotechnology. We develop, manufacture and market immunological products for the diagnosis and treatment of human diseases.

Genetic Systems Corporation has opportunities in the Future in Science-TODAY!! Current recruiting is underway for the following positions.

#### Program Manager-HLA

Ph.D. with post-doctoral experience and publications in immunology will codirect program to develop monoclonal antibodies to HLA antigens. Requires background in immunogenetics or biochemistry of cell membrane glycoproteins. Experience in histocompatibility, hybridoma technology and cell surface antigens preferred. Experience with artificial membranes, liposomes or synthetic antigens a plus. Expected to develop independent research interests relevant to HLA.

#### Project Leaders-Research and Development

Experience in characterization of microbiological antigens, mammalian cell cultures, and basic biochemistry required. Applicant with recent Ph.D. and bacteriology or virology background preferred. Experience in pathogenic mechanisms and/or molecular biology a plus.

# Project Leader-Monoclonal Immunotherapy Dept.

Ph.D. with post-doctoral experience and supervisory ability will co-direct technical staff. Requires background in cell culture preferably monoclonal immunology or clinical microbiology.

We offer an advanced laboratory environment, competitive salary and companypaid benefits. Our location in the Pacific Northwest is abundant with recreational and cultural activities. For consideration, please send your resume to: **Personnel Manager, Genetic Systems Corporation, 3005 First Avenue, Seattle WA 98121-1035.** We are an equal opportunity employer.



### **Research Positions**

Synergen, Inc., a leading biotechnology company, has openings for the following scientists:

# Molecular Biologists Protein Chemists Bacterial Physiologists

We would like to hear from:

Persons with special interest in the problems of gene expression in microorganisms. We are particularly interested in constructing expression systems to make biologically active eukaryotic proteins in microorganisms. Candidates should have experience in one or more of the following areas: the molecular biology of gene expression, the chemistry of proteins, and the physiology of microbial cells.

Persons with experience in protein purification and characterization who are interested in applying these skills to the development of large-scale isolation procedures for proteins from recombinant organisms.

SYNERGEN, located in Boulder, Colorado, offers the opportunity to pursue scientific careers in a stimulating, intellectual and physical environment. We seek recent Ph.D.'s with post-doctoral experience and more senior people interested in becoming part of a rapidly expanding, science-based company. We offer competitive salaries, generous benefits, and the financial stability required for future development. Please send a CV, bibliography, and references to: Recruitment Director, 1885 33rd Street, Boulder, Colorado 80301.



#### **POSITIONS OPEN**

#### FACULTY POSITION—BIOCHEMISTRY

The Department of Biochemistry, The University of Kansas Medical Center, is seeking to fill a tenure-track faculty position at the level of assistant professor. Candidates should have a Ph.D. in biochemistry or in a related field. Preference will be given to individuals who have research interests in cellular mitogens, molecular immunology/immunobiochemistry, or in areas utilizing recombinant approaches. Teaching is in medical and graduate biochemistry. Candidates are requested to send curriculum vitae, summaries of current and proposed research, and the names of three references to: Dr. K. E. Ebner, Chairman, Department of Biochemistry, University of Kansas Medical Center, Kansas City, Kans. 66103. Applicant evaluation will begin as received and continue until a suitable candidate is found. An Equal Opportunity/Affirmative Action Employer.

#### FACULTY POSITIONS BIOCHEMISTRY/MOLECULAR BIOLOGY

The Department of Biochemistry at the University of Illinois at Urbana-Champaign invites applications for several tenure-track positions which will be available in fall 1986. Rank is open and is dependent upon qualifications. Candidates should have demonstrated exceptional research ability in dynamic areas of biochemistry or molecular biology, be prepared to establish an outstanding research program and to contribute to graduate and undergraduate teaching programs. A Ph.D. and postdoctoral experience in biochemistry or a related area are required. For full consideration, candidates should submit curriculum vitae, including a brief summary of their research interests, and three letters of reference, by 1 December 1985 to:

Professor David Shapiro, Chair The Biochemistry Search Committee Department of Biochemistry University of Illinois 1209 West California Urbana, Illinois 61801 Telephone: 217-333-2013

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

#### FACULTY POSITION: PHARMACEUTICAL SCIENCES

University of Southern California, School of Pharmacy, invites applications for tenure-track position at assistant/associate professor level in DRUG DELIVERY or DRUG TARGETING using IMMUNO-LOGICAL, CELL BIOLOGY, OR ENGINEERING APPROACHES. Candidates should possess a Ph.D. and preferably postdoctoral training in a pharmaceutical, biological, or chemical discipline. The successful candidate will complement our existing strengths in drug delivery and drug disposition and participate in team teaching in the professional and graduate programs. Submit curriculum vitae, statement of research objectives and accomplishments, and names of three references by 30 November 1985 to: Dr. Vincent Lee, University of Southern California, School of Pharmacy, 1985 Zonal Avenue, Los Angeles, Calif. 90033.

Equal Opportunity Employer, M/F/H

#### HEAD of DEPARTMENT

The Department of Civil Engineering at Carnegie-Mellon University is seeking applicants for the position of professor and head of the department. Candidates must have a distinguished record of research and scholarly achievement compatible with one or more areas of concentrations of the department. The primary concentration areas are: engineering planning and management, environmental engineering; mechanics, structural, and geotechnical engineering; and computer-aided engineering including robotics. The department is comprised of 18 faculty members, several of whom hold joint appointments, nine research associates, 63 full-time graduate students, and approximately 90 undergraduates. The department has a vigorous externally funded research program. The head is expected to be dedicated to excellence and to provide leadership to maintain and evolve programs in teaching and research. Applications should be sent to: Professor Richard G. Luthy, Head of Search Committee, Department of Civil Engineering, Carnegie-Mellon University; Pittsburgh, Pennsylvania 15213. Carnegie-Mellon University is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and members of minority groups.

### **BIO-TECH RESEARCH**

### MS/PhD SCIENTISTS AND ENGINEERS

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If you're an exceptional experimentalist with a background in biochemistry, enzymology, microbial genetics, molecular biology, microbial physiology, physical biochemistry, and/or biochemical engineering, here's an opportunity to make your contributions count. Rush your resume to:

Personnel Resources Dept. DPHB Eastman Kodak Company Rochester, NY 14650



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#### **PLANT MOLECULAR GENETICS**

#### **Yale University Department** of Biology

Yale University Department of Biology invites applications for an Assistant Professor to join in a growing departmental effort in Plant Molecular Biology. The successful applicant is expected to develop a strong research program and to participate in undergraduate and graduate teaching.

Send curriculum vitae, statement of current and proposed research and names of three references by November 15, 1985 to: Senior Administrative Assistant, Department of Biology, Room 902 KBT, Yale University, New Haven, CT 06511-8112. Yale University is an Equal Opportunity/ Affirmative Action Employer.

#### **Ph.D.** -**Biotechnology** Research

ZymoGenetics, Inc. is a Seattle-based biotechnology firm specializing in the research and development of human and other proteins of industrial and pharmaceutical value. A staff scientist position now open requires an individual with postdoctoral training, who has a rigorous understanding of protein chemistry as well as research experience in one or more of the following:

- Enzymology
- Cell Biology Protein Secretion in Mammalian Cells

ZymoGenetics offers excellent research facilities, competitive compensation and our location, proximate to the University of Washington, affords opportunities for professional development as well as a rich variety of recreational and cultural activities.

To apply, please send a letter of application with a brief statement of research interests, and identification of three references, and your curriculum vitae to: Dept. SC-920, ZymoGenetics, Inc., 2121 North 35th Street, Seattle, WA 98103. An Equal Opportunity Employer.



#### **POSITIONS OPEN**

#### FACULTY POSITIONS IN MOLECULAR GENETICS

The Department of Microbiology and Molecular Genetics at the University of Cincinnati, College of Medicine, is expanding its faculty and is currently searching for four individuals to fill tenure-track positions. Applicants should be applying molecular approaches to immunology, microbial pathogenesis, virology, or developmental or oncogene biology. Applicants should submit curriculum vitae and a summary of research accomplishments and future research plans along with the names of three sciences research plans, along with the names of three scientists willing to write letters of recommendation. Dr. Jerry B. Lingrel, Chairman, Department of Microbiology and Molecular Genetics, University of Cincinnati College of Medicine, Cincinnati, Ohio 45267-0524. The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer.

HEAD—DEPARTMENT OF PLANT SCIENCE, SEARCH CONTINUED. The College of Agriculture, University of Wyoming, invites nomination/applica-tions for the headship, Department of Plant Science. The College of Agriculture is seeking an enthusiastic and progressive individual with natural/international stature to stimulate and lead the department. The head acts primarily as an administrator but may engage in teaching, research, and/or extension according to personal preference. An earned Ph.D. in an appropriate life science is required along with at least 5 years of research, teaching, and/or extension activity. Administrative experience desirable. Applications will be accepted until a suitable candidate is identified. Send letter of application, current résumé, and three letters of reference to: L. C. Munn, Plant Science Head Search Committee, Plant Science Department, P.O. Box 3354, University Station, Laramie, Wy. 82071. Telephone: 307-766-2127. An Equal Opportunity/Affirmative Action Employer.

YALE UNIVERSITY/INVERTEBRATE PALE-ONTOLOGIST. The Department of Geology and Geophysics is soliciting applications for a faculty position in invertebrate paleontology to begin in the academic year 1986-1987. The position may be filled at either the tenured or the untenured level. Curriculum vitae, list of publications, and the names of three referees should be sent by 15 November 1985 to: Referees should be sent by 15 November 1985 to: Karl K. Turekian, Chairman, Department of Geology and Geophysics, Yale University, Box 6666, New Haven, Conn. 06511. Yale University is an Equal Opportunity/Affirma-tive Action Employer and encourages applications from all qualified scientists.

#### INVERTEBRATE PHYSIOLOGICAL ECOLOGIST

The University of Georgia, Department of Zoology, seeks a physiological ecologist/invertebrate zoolgy, seeks a physiological ecologist/invertebrate zoologist for a tenure-track assistant professor appointment starting September 1986. The successful applicant is expected to develop a vigorous research program. Teaching responsibilities will include participation in a graduate/undergraduate course in invertebrate zoology (exclusive of insects) and a graduate course in the individual's area of expertise.

Application should include curriculum vitae and a statement of current research and teaching interests.

Application and three letters of reference should

Application and three letters of reference should reach the committee by 30 November 1985. Apply to: Dr. James W. Porter, Chairman, Search Committee, Zoology Department, University of Georgia, Athens, Ga. 30602.

The University of Georgia is an Equal Opportuni-

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

#### MOLECULAR CONTROL OF CELL PROLIFERATION

Postdoctoral research position available immediately to study the regulation of gene expression during mitogenic activation of animal cells. The genes coding for ornithine decarboxylase, cellular proto-oncogene products, S-adenosylmethionine decarboxylase, and cytoskeletal proteins are regulated at severase, and cytoskeletal proteins are regulated at sever-al levels in mitogenically activated cells, including transcription, transcript stability, and translation. The relationship of these regulatory processes to early changes in ion fluxes, phospholipid metabo-lism, and protein phosphorylation are being studied. Background in molecular biology, especially in re-search with RNA, would be desirable. Send curricusearch with KNA, would be destrable. Send curriculum vitae and names of three references to: Dr. David R. Morris, Department of Biochemistry, SJ-70, University of Washington, Seattle, Wash. 98195. An Equal Opportunity/Affirmative Action Employer.

#### **POSITIONS OPEN**

FACULTY POSITIONS—MOLECULAR PATHO-FACULTY POSITIONS—MOLECULAR PATHO-GENESIS. The Department of Microbiology, University of Texas Health Science Center at San Antonio (UTHSCSA), seeks to hire several tenure-track faculty members (assistant to full professor) with interests in the molecular biology-genetics of any biological (prokaryotic, eukaryotic, viral, or immunological) system. Candidates with a strong record of research achievement, especially in the molecular biology and gene regulation of pathogens, are encouraged to apply. Successful candidates are expected to develop/maintain innovative research programs and to participate in departmental teaching programs and to participate in departmental teaching activities. This is an exceptional opportunity to join an expanding department committed to excellence in research and teaching and located in a desirable academic-geographic setting. Applicants should mail curriculum vitae, a statement of current and future research goals, and arrange to send three letters of reference by 20 December 1985 to: Dr. Joel B. Baseman, Chairman, Department of Microbiology, University of Texas Health Sciences Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, Texas 78284. UTHSCSA is an Equal Opportunity/Affirmatics Asia Explanation of the Control of the tive Action Employer.

#### LABORATORY TECHNICIAN III **ENDOCRINOLOGY**

Michael Reese Hospital and Medical Center has an immediate need for a research-oriented laboratory technician in the Department of Pediatric Endocrinology and Metabolism.

Experience in radioimmunoassays and biochemistry preferred. Position includes some work with large and small laboratory animals. Master's degree in biology/biochemistry or equivalent experience pre-

Michael Reese Hospital offers an excellent starting salary and a complete benefits package, including shuttle bus service from major commuter lines. For confidential consideration, please forward résumé (no telephone calls please) to:

**Nola Jones** Department of Human Resources Michael Reese Hospital and Medical Center Lake Shore Drive at 31st Street Chicago, Ill. 60616

Equal Opportunity Employer, M/F

#### MOLECULAR BIOLOGIST

Assistant professor, tenure-track position, offered by the Institute for Biomedical Research and the Department of Cell Biology and Anatomy of the Oregon Health Sciences University. Candidates should be able to develop a strong research program in an area of cell and molecular biology. Preference will be given to candidates whose research utilizes molecular techniques to understand the regulation of gene expression in eukaryotic development, neoplasia or the nervous system. Teaching duties will be in gene expression in cukaryotic development, neopia-sia, or the nervous system. Teaching duties will be in the neurosciences, cell and molecular biology, or developmental biology. The position includes a gen-erous start-up package in an environment highly erous start-up package in an environment highly supportive of research in molecular biology, cellular biology, and neuroscience. The appointment is for a 12-month period and the salary will be dependent upon experience. Applicants should send curriculum vitae, statement of future research goals, and the names of at least three references to: Molecular Biology Search Committee, Institute for Biomedical Research, Oregon Health Sciences University, Portland, Oregon 97201.

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

PLANT CELL BIOLOGIST. The Department of Biology, The University of North Carolina at Chapel Hill, invites persons analyzing cellular mechanisms in plant growth and/or development to apply for a in plant growth and/or development to apply for a tenure-track assistant professor position. Applicants developing independent research programs focused on significant problems in plant cell biology will be considered, regardless of particular techniques being employed. Applicants should send curriculum vitae, reprints of publications, a ONE-PAGE summary of research plans, and four letters of recommendation by 15 October to: Plant Cell Biology Search Committee, Department of Biology, Coker Hall 010A, University of North Carolina, Chapel Hill, N.C. 27514. The University of North Carolina is an Equal Opportunity/Affirmative Action Employer and encourages apty/Affirmative Action Employer and encourages applications from women and minorities.

#### MOLECULAR/CELLULAR BIOLOGIST

The Lovelace Inhalation Toxicology Research Institute in Albuquerque, New Mexico seeks a Molecular/Cellular Biologist to join its internationally recognized program which addresses significant problems concerning the affects of airborne toxic materials on man and his environment. The Institute approaches its mission with a strong, multidisciplinary team of researchers trained in the biomedical, biophysical and physical sciences. The scope of the research includes molecular, genetic, cellular and tissue responses to energy-related effluents.

The individual we seek will participate in the conduct of research on molecular biology, cell transformation and carcinogenesis, using both in vitro and in vivo techniques. A doctoral degree in molecular and cellular biology and a strong publication record are necessary, as are good communication skills and a desire to work independently and collaboratively as part of a multidisciplinary team. U.S. Citizenship also required. Preference will be given to applicants with 2 or more years of postdoctoral research experience in DNA damage and repair, cell transformation, transcriptional and translational regulation and molecular hybridization techniques.

We offer an outstanding benefit program and a competitive salary. Starting date is negotiable. Qualified applicants are invited to submit a curriculum vitae and summary of research interests to: Personnel Unit, Lovelace Inhalation Toxicology Research Institute, P.O. Box 5890, Albuquerque, NM 87185. (505) 844-9431.

We are an equal opportunity/affirmative action employer

Staff Fellow (Ph.D)
Salary Range - \$17,000 to \$36,889
(Having less than 3 years professional research experience)
Staff Fellow (Ph.D)
Salary Range - \$20,688 to \$41,358
(3-7 years Research Experience)

# NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES LABORATORY OF MOLECULAR BIOPHYSICS

The Prostaglandin Workgroup in the Laboratory of Molecular Biophysics is seeking an individual to participate in studies concerning arachidonic acid metabolism in the development in chemical carcinogenesis. These investigations are centered on two areas of research (1) metabolism of chemical carcinogens to reactive metabolites catalyzed by Prostaglandin H Hydroperoxidase. Studies can involve isolation and identification of metabolites and the development of unique biochemical endpoints to assess the importance of this enzyme system in tumor induction in vivo. The isolation, identification and quantitation of peroxidase-catalyzed DNA adducts are also under investigation. (2) Metabolism of arachidonic acid to prostaglandins and leukotrienes by isolated cells. Studies are focused on role of these lipids in promotion of carcinogensis and the stimulation of cell proliferation by mitogens. The candidate for either area of research must have a record of demonstrated research productivity and the ability to carry out independent as well as collaborative research. The initial appointment is for two years, with additional extensions up to 5 years possible for talented researcher. Salary commensurate with candidate's qualifications and experience. Send curriculum vitae, bibliography and three recommendation letters to:

Bruce Wiggins NIEHS Personnel Office Code: HN-V2K PO Box 12233 (MD-01) Research Triangle Park, NC 27709 (919 541-3317)

NIEHS is an Equal Opportunity Employer

# **BIOCHEMISTRY**

Microgenics is a biotechnology company which has developed an advanced and proprietary diagnostic test system based on protein engineering by recombinant DNA techniques. New positions are available for exceptional research scientists.

IMMUNOCHEMISTS, PhD. Candidates will supervise product development of CEDIA homogeneous enzyme immunoassays. A PhD in immunology or chemistry and prior industrial product development experience required. Candidates will be familiar with validation of diagnostic assays, generation of GLP/GMP protocols, and submission of FDA documentation.

CHEMISTS/BIOLOGISTS, BA/BS/MS. Candidates will be familiar with the performance and documentation of an EIA/ELISA 510(k) validation. Responsibilities will include development of commercial immunoassays and applicable FDA documentation. Supervisory experience preferred.

MOLECULAR BIOLOGISTS, PhD. Candidates will protein engineer hybrid and tribrid polypeptides at the recombinant DNA level for commercial immunoassays within eukaryotic and prokaryotic expression vectors.

CHEMISTS/BIOLOGISTS, BS/MS/PhD. Candidates will function in protein chemistry with a practical knowledge of liquid chromatography, SDS-PAGE, Western-Blots and enzyme-immunoassays.

Microgenics offers a scientific challenge and equity participation with competitive salaries and fringe benefits. For immediate consideration, forward your resume in strict confidence to:

MICROGENICS CORPORATION
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The National Oceanic and Atmospheric Administration (NOAA) has a vacancy for a GM-401-15 (\$52,262 to \$67,940) SUPERVISORY BIOLOGIST (Director, NOAA Estuarine Programs Office) located in Washington, D.C. The office provides national services and leadership for NOAA's estuarine programs and informs NOAA management of estuarine

As director, the incumbent serves as an expert advisor on all matters relative to estuarine research. including development of recommendations on major policy actions affecting estuarine programs with-in NOAA's purview. The director provides continu-ing positive direction and coordination to the many and diversified elements of NOAA's estuarine pro-grams. He/she is responsible for advising the administrator on the program, including resource commit-ments, changes of emphasis, and periodic reviews of goals and objectives.

QUALIFICATIONS: Successful completion of a full 4-year course of study leading to a bachelor's degree from an accredited college or university with major rrom an accredited college or university with major study in biological sciences, marine sciences, natural resource management, or living marine resources; or 4 years of successful experience which demonstrate that the candidate has acquired an understanding of the fundamental principles and techniques of one or more disciplines cited above equivalent to that which would have been acquired through completions of a fundamental completion of a fund through completion of a 4-year course of study. In addition, 3 years of professional experience or graduate education in an appropriate field (or an equivalent combination of both) is required.

SELECTIVE PLACEMENT FACTORS: A broad knowledge of the field of estuarine science. Indepth knowledge of the field of marine ecology. Demonstrated abilities in the administration and direction of programs. Demonstrated proficiency in oral and written communications.

Interested persons should submit a completed SF-171, Personal Qualifications Statement, together with a college transcript to: Teresa Dunnington, NOAA, NMFS Personnel Section, RAS/DC22:DT, 11420 Rockville Pike, Room 314, Rockville, Md. 20852. Telephone: 202-634-7357.

This vacancy closes 4 October 1985. NOAA is an Equal Opportunity Employer.



# POSTDOCTORAL FELLOWSHIPS IN THE DEPARTMENT OF MICROBIOLOGY AND MOLECULAR GENETICS, UNIVERSITY OF CALIFORNIA, IRVINE

Several positions for research in individual labora tories in the department are available for candidates who have demonstrated exceptional research prom ise at the predoctoral or postdoctoral level. The emphasis of research in the department is in the areas of molecular genetics, recombinant DNA technology, and cell biology. Outstanding applicants will be invited for seminar presentations. The faculty of the department and their research interests are

Dr. Kevin Bertrand: Regulatory and structural genes determining bacterial tetracycline resistance.

Dr. Dennis Cunningham: Mechanism of growth fac-

tor action; cell surface proteins and receptors.

Dr. George Gutman: Immunology, antibody structure, and gene organization.

Dr. G. Wesley Hatfield: Molecular genetic characterization of (i) attenuation in *Escherichia coli*, (ii) human genes of clinical importance.

Dr. Harris Moyed: Genetic control of antibiotic

susceptibility.

Dr. Kathleen Postle: Molecular genetics of Esche-

richia coli cell envelope, iron transport, and gene regulation.

Dr. Suzanne Sandmeyer: Structure and function of

Dr. Suzanne Sandmeyer: Structure and function of transposable elements in yeast.
Dr. Rozanne Sandri-Goldin: Control of gene expression in Herpes simplex virus.
Dr. Bert Semler: Directed mutagenesis and expression of cloned animal virus genes.
Dr. Stephen Sharp: Molecular biology of eukaryotic tRNA gene expression.
Dr. Eric Stanbridge: Identification and characterization of human oncongenes and oncogene suppressor sequences.

Dr. Paul Sypherd: Fungal morphogenesis

Applications or inquiries for additional information should be sent to: Dr. Paul S. Sypherd, Department of Microbiology and Molecular Genetics, University of California, Irvine, Calif. 92717.

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#### **POSITIONS OPEN**

IMMUNOLOGIST. The Department of Biology seeks applicants for a tenure-track immunologist position at the assistant or associate professor level to begin 1 September 1986. Preference will be given to applicants experienced in molecular and biochemto applicants experienced in molecular and biochemical aspects of immunoregulation and cellular aspects of lymphocyte cloning. Candidates with experience in viral immunology are also encouraged to apply. Postdoctoral training is desirable. The successful candidate will be expected to establish an active research program aided by collaboration with other immunologists, molecular biologists, and lockemists, and in a university wide biotechnology. chemists, and in a university-wide biotechnology research program involving the Colleges of Arts and Sciences, Agriculture, and Veterinary Medicine. The successful candidate will participate in teaching at the undergraduate and graduate levels. The posiat the undergraduate and graduate levels. The posi-tion includes a well-equipped laboratory and attrac-tive start-up funds. Salary is commensurate with experience. Virginia Tech, Virginia's land-grant uni-versity, is located in scenic southwest Virginia, 40 miles from Roanoke. Applicants should submit cur-riculum vitae, a one- to two-page statement of research interests, and at least three names of refer-ences to: Dr. Klaus D. Elgert, Search Committee Chairman. Department of Biology. Virginia Polytech. Chairman, Department of Biology, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061. Application deadline: 30 November 1985 or until position is filled. Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

#### MOLECULAR BIOLOGIST/GENETICIST

The Insect Genetics and Cell Biology Section of the Metabolism and Radiation Research Laboratory, U.S. Department of Agriculture (USDA), ARS, Fargo, N.D., is seeking applicant for a 3-year position as a research geneticist. Basic research in molecular genetics of Lepidoptera to include molecular analysis of Lepidopteran genomes, develop clone librar-ies, search for transposable elements that might be used in gene transfer. Requirements include Ph.D. and knowledge of molecular biology/biochemistry, recombinant DNA technology, and transposable elements. Must be a U.S. citizen. Salary: \$26,381 per year. For information on the research program or year. For information on the research program or position, contact: Dr. Richard L. Roehrdanz, telephone: 701-237-5771, extension 5428. For information on application procedures/forms, contact: Miriam Pritchard, telephone: 301-344-2756. Applications should be marked Code Number N-01, SEU 5-0088 and be received by 4 October 1985. Mail applications to: Special Examining Unit, USDA Agricultural Research Service, Room 409, Building 003, BARC-West, Beltsville, Md. 20705. Beltsville, Md. 20705.

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NEUROBIOLOGY POSTDOCTORAL research positions are available to study the organization, development, and plasticity of motor and sensory systems in brainstem, cerebellum, and spinal cord. Opportunities are available for collaborative work in several laboratories emphasizing the spatial, temporal, and cellular factors which influence neural development, plasticity, and regeneration. Applicants with experience in axonal tracing methods, immunocytochemistry, electron microscopy, image analysis, or receptor localization are preferred. Initial appointments are expected to be under the sponsorship of Drs. Beattie and Bresnahan, or Martin and King, but delivitions positions may be be available in the sponsorship. of Drs. Beattle and Bresnahan, or Martin and King, but additional positions may soon be available in the expanding neuroscience program at Ohio State. Send curriculum vitae with names of three references, along with a statement of research interests, to: Dr. George F. Martin, Department of Anatomy, The Ohio State University College of Medicine, 1645 Neil Avenue, Columbus, Ohio 43210, or telephone 614-422-1667.

#### DUKE UNIVERSITY PLANT CELL BIOLOGIST

The DEPARTMENT OF BOTANY seeks an out-The DEPARTMENT OF BOTANY seeks an outstanding scientist for a tenure-track position in PLANT CELL BIOLOGY. Rank is open. The successful candidate will be expected to maintain an innovative research program, contribute to departmental teaching, and participate in the interdepartmental graduate Program in Cellular and Molecular Biology. Send curriculum vitae, reprints, and the names of three references by 15 November 1985 to: Professor James N. Sledow, Chair of the Search Committee, Botany Department, Duke University, Durham, N.C. 27706.

Duke University is an Equal Opportunity/Affirmative Action Employer

#### **POSITIONS OPEN**

THE UNIVERSITY OF ADELAIDE invites applica-tions from both men and women for TWO LEC-TURESHIP POSITIONS (tenurable) in the Depart-ment of Agronomy in the Waite Agricultural Re-search Institute. Applicants should have wide inter-ests, and a demonstrated research competence, in field-oriented aspects of agronomic constraints to crop and pasture production. Interests might range from the influence of management on plant developfrom the influence of management on plant development and production to systems analysis. Persons with experience in any aspect of agronomy are encouraged to apply; crop water relations and weed science would be considered appropriate. Fuller details may be obtained from: Professor C. J. Driscoll, telephone: (08) 372 2444. Annual salary: A\$26,235 × 7 to A\$34,467. Applications, in duplicate, quoting reference numbers E1068 E1072, giventer of the professor C. caie, quoting reference numbers E1068, in duplifier in personal particulars (including whether candidates hold Australian permanent residency status), résumé, and names and addresses of three referees should reach: The Registrar, University of Adelaide, GPO Box 498, Adelaide, South Australia, 5001, Australia (telex UNIVAD AA 89141), not later than 25 October 1985.

#### MEDICAL MICROBIOLOGISTS

Difco Laboratories new Research and Development Center has openings for technical management positions in medical microbiology. A Ph.D. in medical microbiology and immunology with knowledge of the clinical laboratory is preferred. Education in a related science may be acceptable with relevant research experience. Commercial experience is helpful. Project areas of interest are: antibiotic assay development, immunoassays, rapid identification methods. Proven leaders with sound publication lists and good research potential will be given preference. Send your résumé, publication list, and the names of three references to: Darlene Schafer, DIFCO LABORATORIES, Research and Development Center, 1180 Ellsworth Road, Ann Arbor, Mich. 48104. Equal Opportunity Employer, M/F

#### MOLECULAR PHYSIOLOGY

Three tenured or tenure-track positions (assistant professor-professor) are available in the Department of Physiology and Biophysics for faculty working in endocrinology, neurobiology, or immunology at the molecular level. Highly competitive salaries and levels of start-up money are available. Please send curriculum vitae and the names of five references to:

> Professor J. D. Neill Department of Physiology and Biophysics University of Alabama at Birmingham Birmingham, Alabama 35294

PLANT PATHOLOGIST. Full-time, tenure-track academic appointment, starting 1 January. Responsibilities: teach basic pathology and a graduate course. Develop a research program applicable to crops in Maine with emphasis on genetics or molecular biology of disease resistance, virulence, pathogen biology, or disease physiology. Ph.D. required; research background and postdoctoral experience on fungal and bacterial diseases preferred. Send letter of intent, curriculum vitae, research plans, and arrange for three letters of recommendation by 4 October to: Dr. Frank Manzer, Chairman, Search Committee, Department of Botany and Plant Pathology, 202 Deering Hall, University of Maine, Orono, Maine 04469.

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL OR JUNIOR FACULTY POSI-TION available for research in peptide biochemistry, physiology, and pharmacology. Emphasis on purification, radioimmunoassay, receptor isolation and characterization, monoclonal antibodies, and regulation of biosynthesis and release. Salary and position determined by qualifications. Send résumé and references to: Dr. S. I. Said, P.O. Box 26307, Oklahoma City, Oklahoma 73126. An Equal Opportunity Employer.

#### RENAL PHYSIOLOGY

An assistant professorship (tenure-track) is available in the Department of Physiology and Biophysics to persons investigating renal function at the cell or organ level. Please send curriculum vitae and the pages of the reference to: names of five references to:

Professor J. D. Neill Department of Physiology and Biophysics University of Alabama at Birmingham Birmingham, Alabama 35294

**Pioneer Hi-Bred International** is seeking a **plant virologist** for its Department of Biotechnology Research. This project manager will be responsible for the development of a plant disease diagnostics kit for use by plant breeders. Additionally, collaboration with molecular biologists involved in plant transformation is desired in the areas of plant resistance to viruses and of virus-based vectors.

The ideal candidate will be an imaginative and productive scientist who is seeking an open, stable and supportive research environment. He or she will have a Ph.D. and postdoctoral experience in plant virology. Experience in immunochemistry is desirable.

Pioneer has emphasized an expanding research commitment for over 50 years, maintains state-of-the-art facilities and equipment and provides full operating and technical support. Salaries are highly competitive and commensurate with education and experience. Benefits are comprehensive and substantial. Research facilities are located outside Des Moines, lowa.

Applicants should submit curriculum vitae with names of the three references to: **Dr. N. M. Frey, Pioneer Hi-Bred International, Inc., Box 38, Johnston, IA 50131,** by **October 1985.** 



\* Registered trademark of Ploneer Hi-Bred International, Inc., Des Moines, Iowa 50309

#### PHARMACEUTICAL RESEARCH

Safety Evaluation section of expanding pre-clinical program has two vacancies for senior level scientists, with scope of work commensurate with credentials required.

#### PRINCIPAL TOXICOLOGIST

Supervise staff of 5 in protocol preparation, study, initiation, and monitoring. Communicate data to Section Manager; prepare Safety Reports as team member with pathologists, biochemists, and analytical chemists. Ph.D. plus 6-10 years' experience with competence in multi-generation fertility reproduction, data processing, GLP's and SOP's.

#### **PATHOLOGIST**

Perform gross necropsies and histopathologic evaluations to characterize toxic effects of drug candidates. Draft reports on findings. DVM or VMP'Diplomate of ACVP with 2-3 years industrial lab experience preferred. Ability to work with pharmacologists, biochemists, MIS, consultants, and contract labs. Fully familiar with GLP compliance.

Competitive salary and comprehensive benefits, including superb investment program. Laboratories are second to none. Suburban location 25 miles south of Philadelphia. Please submit full CV in strict confidence. Principals only. Charles T. Brodigan, Associate Employment Manager



#### STUART PHARMACEUTICALS

Division of ICI Americas Inc. Wilmington, DE 19897

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Integrated Genetics of Framingham, Massachusetts is a leading biotechnology firm specializing in the health care field with emphasis on DNA probe diagnostic technology and production of complex therapeutic proteins.

# Staff Scientist Protein Engineering

Ph.D. in Molecular Biology and at least 2 years post doctoral work (or equivalent). Experience in cardiovascular proteins, protein folding or <u>in vitro</u> mutagenesis is a plus.

### Research Associates

We now have openings for Research Associates with B.S./M.S. and 2-4 years experience. Duties include planning, performing and evaluating experiments in the following areas:

#### Non-Isotopic Labelling

Chemist/biochemist with a background in nucleic acids or protein chemistry. Experience in non-isotopic labelling is preferred.

#### Molecular Biology

Experience in DNA cloning, genetic engineering, vector construction, and related technology is required.

#### **Bioassays**

Experience in maintaining mammalian cell lines, developing and performing <u>in vitro</u> and/or <u>in vivo</u> bioassays.

#### Protein Chemistry

Purification and characterization of therapeutic proteins. Experience in chromatography and protein chemistry is required.

#### **Fertility Hormones**

Experience in radio immunoassays, biochemical endocrinology, and in vitro bioassays is required.

Integrated Genetics offers an attractive compensation and benefits package. Please forward your resume to:

Elaine Rosenberg,
Director of Human Resources
Integrated Genetics, Inc.
Dept. S-920
31 New York Avenue
Framingham, MA 01701

INTEGRATED

GENETICS

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#### **POSTDOCTORAL POSITIONS IN METABOLISM AND STRUCTURAL** BIOCHEMISTRY

Several postdoctoral positions are available immediately to study metabolism or protein and polysaccharide structure in the Isotope and Structural Chemistry Group (INC-4). Metabolism: Three positions are available to study metabolism in bacteria, plants or animals using stable-isotopic labeling and NMR spectroscopy. Specific research areas are:

.Carbon assimilation metabolic regulation and methylotrophic bacteria. Background required in microbial physiology or biochemistry. (Dr. C.J. Unkefer)

2. N- and C-metabolism in legumes and the metabolic effects of a glutamine synthetase-specific phytotoxin. Plant physiologists and biochemists encouraged to apply. (Dr. Pat J. Unkefer)

Studies of metabolic dynamics and regulation in animals and isolated perfused organs. Seeking person with broad interest in this area to work on problems of clinical relevance. (Dr. J.A. Fee)

**Structural Biochemistry:** Two positions are available to study structure and function in complex carbohydrates or metalloproteins. 1. Structure of complex car

bohydrates using specific <sup>13</sup>C-labeling and NMR and Mass Spectroscopy. Background required in carbohydrate chemistry

or biochemistry. (Dr. C.J. Unkefer)
2. Structure-function relations in metalloproteins of respiration. Background required in physical biochemistry or applied molecular biology. (Dr. J.A. Fee)

INC-4 maintains active programs in bioorganic (synthesis of stable isotopically labeled compounds), biochemistry, physical and inorganic chemistry. We are well equipped with modern NMR, EPR, and ontical spectrometers and have and optical spectrometers and have excellent fermentation, plant, cell culture, and general biochemical facilities. Interested persons should contact the principal investigators listed above at (505) 667-1001 for additional information.

To formally apply, send resume, bibliography, and three letters of reference to:

Carol M. Rich Personnel Administration Division POSTDOC-EN

Los Alamos National Laboratory Los Alamos, New Mexico 87545

Los Alamos National Laboratory is an Affirmative Action/Equal Opportunity Employer operated by the University of California for the United States Department of Energy. U.S. Citizenship Required

University of California



#### **POSITIONS OPEN**

#### PLANT MOLECULAR BIOLOGIST

The University of California, Santa Cruz, invites applicants for a tenure-track position in plant molecular biology at the assistant professor level, starting 1 July 1986. Preference will be given to applicants with several years of postdoctoral experience, using molecular biological techniques to study fundamental problems in plants. In addition to developing an active research program, the appointee will be extal problems in plants. In addition to developing an active research program, the appointee will be expected to offer one upper-division course in the area of her/his specialty, teach at lower-division and graduate levels, and conduct research in a new research laboratory building now being constructed. Send curriculum vitae, a brief description of research and teaching goals, reprints of scientific papers, and three references by 1 January 1986 to:

Dr. Lincoln Taiz, Chair, Search Committee, Department of Biology. University of California, Santa Cruz-

ment of Biology, University of California, Santa Cruz,

An Equal Opportunity/Affirmative Action Employer

#### PLANT MOLECULAR BIOLOGY

The Department of Botany, The University of Texas, is seeking applicants for a full-time faculty position to direct research, develop a graduate program, and teach in the area of plant molecular biology. Rank and salary are open, based on qualifications. Applicants should possess demonstrated capabilities for research in some molecular aspect of plant biology involving the use of recombinant DNA technology. Send curriculum vitae, statement of future research goals, and names of three references by 31 December 1985 to: Dr. Tom Mabry, Chairman, Department of Botany, The University of Texas at Austin, Austin, Texas 78713.

#### PLANT MOLECULAR GENETICIST

A tenure-track assistant professorship for a plant molecular geneticist is available in the Biochemistry Department, University of Maine at Orono. The person selected will share newly constructed research facilities with a multidisciplinary group of biochemists, molecular biologists, cell biologists, and geneticists working with a variety of plant, animal, and prokaryotic systems, will be expected to develop an independent research program and will participate in graduate and undergraduate teaching obligations of the Biochemistry Department and of obligations of the Biochemistry Department and of the Cellular and Molecular Biology Program. Any research area within plant molecular genetics will be considered. Apply with curriculum vitae, reference letters, and a detailed description of the proposed research program to: Dr. Robert Roxby, Biochemis-try Department Chairman, University of Maine, Orono, Maine 04469. Orono, Maine 04469.

POSTDOCTORAL FELLOW—Laboratory of Drs. J. D. McGarry and D. W. Foster to study the biochemistry, regulatory properties, and molecular biology of mitochondrial carnitine palmitoyltransferase. M.D. or Ph.D. Research experience in protein chemistry and techniques of molecular biology desirable. Salary range: \$16,000 to \$26,000. Applicants should send curriculum vitae and arrange for three letters of reference to be forwarded to: Dr. J. Denis McGarry, Professor of Internal Medicine and Biochemistry, University of Texas Health Science Center. chemistry, University of Texas Health Science Center, 5323 Harry Hines Boulevard, Dallas, Tex. 75235. Equal Opportunity University.

#### POSTDOCTORAL FELLOWSHIPS Research Training in the Mechanisms of Cardiovascular Injury

Postdoctoral fellowships supported by an NHLBI Postdoctoral fellowsnips supported by an NHLBI training grant are currently available at the Oklahoma Medical Research Foundation. Comprehensive multidisciplinary research opportunities for the study of cellular interactions and injury in the cardiovascular system include the following research areas: analysis and biological effects of free radicals, fatty acid metabolites, cyclic nucleotides, peptides and effector proteins, role of endothelial cells and platelets in coagulation and vascular tone, characterand effector proteins, role of endothelial cells and platelets in coagulation and vascular tone, characterization of cell surface receptors, regulation of triglyceride and phosphoinositide metabolism, cardiac bioenergetics, electrophysiology of single cells, and membrane protein biochemistry. Beginning stipends above NIH scale and complete fringe benefit package.

Send curriculum vitae to:

Dr. Fletcher B. Taylor Oklahoma Medical Research Foundation 825 Northeast 13 Street Oklahoma City, Okla. 73104

Equal Opportunity Employer

#### **POSITIONS OPEN**

UNIVERSITY OF WASHINGTON-The Department of Botany invites applications for a tenure-track position in PLANT PHYSIOLOGY, preferentrack position in PLANT PHYSIOLOGY, preferentially at the assistant professor level. Candidate must establish a vigorous research program in physiological, biochemical, or molecular botany. Postdoctoral experience is desired. Teaching will include undergraduate botany/biology, plant physiology, and a graduate course in one of the following: plant biochemistry, water relations, or mineral nutrition. Send curriculum vitae, statement of research goals, and three letters of reference to: Dr. R. E. Cleland, Department of Rotany. University of Washington. Department of Botany, University of Washington, Seattle, Wash. 98195, by 15 November 1985. The University of Washington is an Equal Opportunity/ Affirmative Action Employer.

#### POPULATION BIOLOGIST WESLEYAN UNIVERSITY

Applications are invited for a tenure-track position at the assistant professor level from all areas of population biology that incorporate a strong genetic component. A solid background in statistical methods will be assumed. The department is interested in areas such as, but not limited to: (i) the interface of ecology and genetics, for example, mechanisms of speciation; (ii) genetic and environmental influences on fitness, for example, contributions of plasmid genome and/or transposable elements to fitness in fluctuating environments; and (iii) applications of quantitative genetics, for example, characterization of polygenic complexes of evolutionary importance. Teaching responsibilities will include participation in one semester of the biology core curriculum and, in alternate years, an advanced course in the area of specialization or an undergraduate course in eacl of (population biology). The Wesleyan Biology Department is housed in well-equipped, modern laboratories, and has a research-oriented faculty attracting a high level of outside funding. The successful candidate will be expected to pursue a fundable research program and to actively participate in the departmental Ph.D. program. Applicants should have postdoctoral research experience and demonstrated research ability. To apply, forward an application by 1 November, including curriculum vitae, a description of planned research, and three letters of reference to: Search Committee, Biology Department, Wesleyan University, Middletown, Conn. 06457. Wesleyan University is an Equal Opportunity/Affirmative Action Employer. We encourage applications from women and minority candidates.

#### POSTDOCTORAL POSITION IN **BIOCHEMICAL TOXICOLOGY**

Position available 1 October 1985 for study of pulmonary toxicology of oxidants in aged animals. Requires expertise in chemistry, biochemistry, and mammalian toxicology. Starting salary: \$17,500. Reply with curriculum vitae and three references to:

Dr. Mark R. Montgomery, Research Service (151) VA Hospital 13000 North 30 Street Tampa, Fla. 33612

The VA is an Equal Opportunity Employer.

POSTDOCTORAL POSITION immediately available at the University of California in San Diego (UCSD). The position is for 2 years to work on the development of chimeric antibodies. Applicants should have some experience in molecular biology techniques. Send curriculum vitae and references to:

Dr. Roland Newman, UCSD Cancer Center, T-011, University of California et Son Diego. Le Julio California et Son Diego. Le Julio California et Son Diego. University of California at San Diego, LaJolla, California 92093. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available January 1986 to study erythrocyte receptor-parasite interactions. Applicants should have an interest in parasiuons. Applicants should have an interest in parasi-tology and experience in biochemical techniques to characterize membrane proteins. Salary commensu-rate with experience. Send curriculum vitae and names of two references to: Dr. Margaret Perkins, Box 282, Rockefeller University, New York, N.Y. 10021.

POSTDOCTORAL POSITION available to study runsit of both red and white blood cells through the pulmonary microcirculation using multidisciplinary approach. Competitive salary. Send curriculum vitae and names of three references to: Wiltz W. Wagner, Ph.D., Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Ind. 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.



**SYNTRO CORPORATION**, a San Diego-based biotechnology company, is seeking an **IMMUNOLOGIST** at the scientist level to provide immunological expertise to numerous ongoing company projects. Primary responsibilities include the development of monoclonal and polyclonal antibody reagents for scientific use.

In addition to Ph.D. or B.S./M.S. with related experience, the ideal candidate must demonstrate:

- In-depth understanding of State-of-the-Art immunology
- Direct experience in immunological reagent production
- Experience in all aspects of hybridoma production and screening sufficient to design and implement products
- · Ability to work in a dynamic and interactive environment

**SYNTRO,** located in the heart of San Diego scientific community, offers a competitive compensation package in an outstanding research environment, as well as excellent opportunities for professional growth. If you would like to contribute to our growth and development as a successful biotechnology company, please send a resume and three professional references to:

Director of Human Resources **SYNTRO CORPORATION** 10655 Sorrento Valley Road San Diego, CA 92121

AN EQUAL OPPORTUNITY EMPLOYER

#### **PHARMACOLOGIST**

Southern Research Institute is seeking candidates for a position in an ongoing research program on drug disposition and pharmacokinetics

Applicants should have a doctoral degree in pharmacology, biochemistry, or other appropriate field. Requirements include a good understanding of the physiological and physical chemical mechanisms that govern absorption, distribution, metabolism, and excretion of drugs, and good analytical techniques in the analysis of biological fluids. Postdoctoral experience is not required.

A primary responsibility of this position is to evaluate the interaction of changes in chemical structure with the physiological mechanisms that determine pharmacokinetic parameters in animals. The opportunity is available to collaborate with scientists in other groups on conception, development, and execution of new research programs.

With a staff numbering almost 700, Southern Research offers a stimulating work environment, generous benefits, up-to-date research facilities, and an extensive technical library.

Qualified candidates should send their curriculum vitae and salary requirements to:



James G. Kerr Department B69 SOUTHERN RESEARCH INSTITUTE P.O. Box 55305 Birmingham, Alabama 35255-5305

An Affirmative Action/Equal Opportunity Employer





# The Howard Hughes Medical Institute and The National Institutes of Health

again announce

The Program for Research Opportunities for Medical Students 1986-87

HHMI-NIH Research Scholars can spend 9-12 months in one of the 1,000 research laboratories located at the NATIONAL INSTITUTES OF HEALTH, Bethesda, MD.

Salary, fringe benefits and travel will be provided.

**Further information** and application forms may be obtained by writing to the Howard Hughes Medical Institute, P.O. Box 330837, Coconut Grove, FL 33133

Your request for the application information should be received by December 2nd, 1985. Final deadline for return of all application materials is January 15th, 1986.

20 SEPTEMBER 1985

# Manufacturing Microbiologists

**Connaught Laboratories Limited** is a Canadian company internationally acclaimed for its role in the development and manufacture of human biological products.

We are currently seeking three additional scientific staff for the Toronto manufacturing facility. These positions require dynamic, practical scientists with demonstrated leadership and interpersonal skills

Cand\*dates should have post doctoral experience in Bacteriology, Microbiology, Biochemistry, Virology or Cell Biology. Responsibilities will include the improvement of existing processes and the participation in the development of new products and processes. Preference will be given to those candidates having knowledge and experience in human vaccine production and/or testing.

Curriculum vitae and the name of three references should be sent, in confidence to: Mrs. M. Forsyth, Human Resource Department, Connaught Laboratories Limited, 1755 Steeles Avenue W., Willowdale, Ontario M2R 3T4.





Hybritech, located in the biotechnology center of San Diego, is a leader in the application of monoclonal antibody technology to human health care needs. Our research and development objectives include basic hybridomatechnology, in vitro and in vivo diagnosis of cancer, cancer therapy, infectious disease diagnosis and therapy, development of novel immunodiagnostic methods for hormones, and development of radiopharmaceuticals.

Our continued growth has created challenging career opportunities at the group leader, scientist and research technician levels for individuals with experience and interest in the following areas:

#### Immunoassay Development — Scientists and Group Leaders

Biochemists, Immunologists, Microbiologists, and Virologists to perform antigen characterization and immunoassay product development. Group Leader positions requires 3-5 years industrial and managerial experience.

#### **Cellular Immunologists**

For research in **in vitro** immunization, mechanisms of antibody regulation, and basic cell biology.

#### **Tumor Immunologists**

For development of monoclonal antibodies to tumor associated antigens.

#### **Hybridoma Specialists**

Basic fusion technology, variant isolation.

#### **Clinical Research Scientist**

Clinical studies for cancer diagnostic test kits. Requires good understanding of immunodiagnostic procedures, working knowledge of computer systems and statistics.

Hybritech offers a stimulating work environment, competitive salaries and excellent company paid benefits. Please send your resume and salary history to: **Personnel Dept., Hybritech Incorporated, P.O. Box 269006, San Diego, CA 92126.** Equal Opportunity Employer.

#### **POSITIONS OPEN**

POSTDOCTORAL POSITIONS—The Respiratory Group of the Department of Physiology, University of Pennsylvania School of Medicine, invites applications for postdoctoral positions. Representative research areas include airway smooth muscle, lung and tissue gas exchange; liver CO<sub>2</sub> metabolism (ureagenesis, gluconeogenesis); carbonic anhydrase; fetal/maternal circulation, lung and lung cell surfactant metabolism, surfactant synthesis and recycling; mechanisms of chemical transduction in carotid and aortic bodies; cellular adaptations to low and high oxygen pressures; chemoreceptor mechanisms and mitochondrial reactions. These positions are intended to provide 1 to 3 years of experience for persons planning to pursue a career in research. Address inquiries to: Dr. Maria Delivoria-Papadopoulos, Education Officer, Department of Physiology, University of Pennsylvania, Room-A-201 Richards Building/G4, Philadelphia, Pa. 19104. Applications from women and minorities are especially welcome. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study the structure and function of receptors for peptide hormones. Candidates should have experience in one or more of the following areas: binding assays; protein purification; peptide synthesis/modification/HPLC; polyclonal/monoclonal antibody preparation; fluorescence microscopy; cell culture; recombinant DNA techniques. Studies will include analysis of receptor structure as it relates to mechanisms of signal transduction in epithelial and neuronal cells. Send curriculum vitae and the names of three references to: Dr. Steven A. Rosenzweig or Dr. James D. Jamieson, Department of Cell Biology, Yale University School of Medicine, 333 Cedar Street, P.O. Box 3333, New Haven, Conn. 06510. Yale University is an Equal Opportunity Employer.

POSTDOCTORAL POSITION—Immediate opening for a protein biochemist to isolate and characterize tubulin and microtubule-associated proteins from higher plants grown at suboptimal temperatures. Results will contribute to understanding how cold acclimation enhances MT cold stability in hardy plants. Send curriculum vitae and transcripts, and have three reference letters sent before 1 October 1985 to: Dr. John V. Carter, Department of Horticultural Science, 305 Alderman Hall, University of Minesota, St. Paul, Minn. 55108. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

POSTDOCTORAL POSITION available for person with experience in molecular biology. Applicant will be expected to apply recombinant DNA technology to study the structure and regulation of expression of genes involved in the Alzheimer's disease. Work also involves DNA chemical synthetic and analytical techniques.

Salary range: \$25,300 to \$30,000, commensurate with experience. Send inquiries to:

Dr. N. Robakis Attention Personnel Number 435 New York State Institute for Basic Research 1050 Forest Hill Road Staten Island, New York 10314

POSTDOCTORAL POSITION available immediately to employ expression vectors and site-directed mutagenesis to study the structure and function of the membrane transport complex for ribose in Escherichia coli. Experience in prokaryotic molecular biology and genetics strongly preferred. Address applications to: Dr. Mark Hermodson, Department of Biochemistry, Purdue University, West Lafayette, Ind. 47907. Purdue University is an Equal Opportunity/Affirmative Action Employer.

#### POSTDOCTORAL RESEARCH ASSOCIATE

Available immediately to continue study of human T-cell clones to herpes simplex viruses, supported by NIH grant. Candidates should be knowledgeable in cellular immunology. Please send curriculum viae and names of three references to: Dr. Joyce M. Zarling, Oncogen, 3005 First Avenue, Seattle, Wash. 98121. Telephone: 206-728-4800. Equal Opportunity Employer.

#### T CELL SCIENCES INC.

is a leading biotechnology company, located in Cambridge, Massachusetts, with opportunities for key scientists in developing clinical immunology products. We are seeking qualified Ph.D./M.S./B.S. scientists at all levels with the following expertise:

MOLECULAR BIOLOGISTS with background in gene expression in procaryotic or mammalian cells. Isolation and characterization of mammalian genes, and mass production of cloned gene products.

**CELLULAR IMMUNOLOGISTS** with expertise in human T cell cloning, assays for T cell functions, and immunochemistry.

HYBRIDOMA SCIENTISTS with extensive experience in supervising immunization, screening and purification of monoclonal antibodies, and antigen purification. Additional expertise in immunochemistry and T cell biology preferred.

The positions include a career enhancing environment and offer the opportunity to interface with internationally recognized scientists in converting their discoveries into products. The Company, an equal opportunity employer, offers comprehensive medical/dental plans and competitive salary.

Please send your resume in confidence to:

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Personnel Manager T Cell Sciences Inc. 840 Memorial Drive Cambridge, Massachusetts 02139.



#### **MOLECULAR EVOLUTIONIST/SYSTEMATIST**

#### Yale University Dept. of Biology

The Yale University Department of Biology is continuing its search for a new faculty member in the area of Molecular Evolution or Molecular Systematics.

Preference will be given to experimentalists working with modern DNA techniques. The successful candidate will be expected to lead an active research program, interact with related faculty, and contribute to the Department's teaching of graduate and undergraduate students. Appointment is expected at the assistant professor level.

Interested individuals should send curriculum vitae, summary of past and present research, and the names of at least three references to: Executive Secretary, Molecular Evolution Search Committee, Department of Biology, Yale University, P.O. Box 6666, New Haven, CT 06511. Deadline for receipt of applications is December 1, 1985. Yale University is an Equal Opportunity/Affirmative Action Employer.

# Immunodiagnostic Scientists

Triton Biosciences Inc., an entrepreneurial subsidiary of Shell Oil Company, is an emerging force in the development of cancer diagnostics and therapeutics. Our company is built upon a strong base of research expertise, solid financial support, and sound management.

As part of Triton's diagnostic efforts, a department of diagnostic development scientists is being created in Tarrytown, NY (Westchester County). This group will formulate assays in conjunction with the development of an automated diagnostics system as part of our Partnership agreement with the Technicon Instruments Corporation. Some of these assays will come from Triton's university programs and our established Diagnostics Research group. Ultimately, we envision moving the development group to the San Francisco Bay Area to work in conjunction with our Diagnostic Research group and our Manufacturing facility.

Excellent opportunities exist for innovative scientists with proven track records for developing difficult and challenging assays and who are stimulated by the thought of continuing this activity in a systems environment.

# Diagnostic Development Scientists

Qualified candidates must have a Ph.D. in immunology, microbiology, biochemistry, or protein chemistry with 2-4 years of diagnostic development

experience. Work in the cancer and/or infectious diseases area is preferred. Specific experience in developing assays for large-scale systems is highly desirable.

# Diagnostics Development Associates

Requires a B.S. or M.S. with several years of diagnostic development experience. Work in the cancer, infectious disease, or hormone area is preferred.

Triton is headquartered in Alameda, CA and offers competitive salaries and benefits. For prompt consideration, please forward your C.V. with salary requirements and the names of three references to: Triton Biosciences Inc., Employee Relations, Box 125S, 1501 Harbor Bay Parkway, Alameda, CA 94501

All candidates must have U.S. citizenship or permanent resident visa status. An equal opportunity employer.



Triton Biosciences Inc.

20 SEPTEMBER 1985 1319

#### **POSITIONS OPEN**

POSTDOCTORAL POSITIONS IN BIOCHEMIS-TRY. Two positions available, one immediately, one spring of 1986, to study either the location and specificity of functionally important protein-lipid inspecificity of functionally important protein-lipid interactions within cytochrome c oxidase or the structural organization of subunits and hemes within this membrane complex. Starting salary: \$18,000 per year. Submit curriculum vitae and names of three references to: Dr. Neal Robinson, Department of Biochemistry, The University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, Tex. 78284. Telephone: 512-691-6353. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in lipid metabolism is available now for 2 years. A Ph.D. is required with related experience in lipid chemistry. The successful applicant will study PUFA metabolism of positional and geometric isomers. Experience with cell culture and geometric isomers. Experience with cent cutture is desirable, but not essential. Please send curriculum vitae and three letters of reference to: Dr. B. A. Watkins, Department of Animal Sciences, Washington State University (WSU), Pullman, Wash. 99614-6320. WSU is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to isolate and study the plasma membrane of trypanosomes, specifically its interaction with cytotoxic serum proteins and drugs and its properties during differentiation. Background in cell fractionation, membrane biochemistry, and/or lipid methodology is desirable. Please send curriculum vitae and names of three references to: **Dr. M.** R. Rifkin, The Rockefeller University, 1230 York Avenue, New York, N.Y. 10021.

POSTDOCTORAL RESEARCH ASSOCIATE position available for an individual interested in metabotion available for an individual interested in metabo-lism of phospholipids and atherosclerosis. Experi-ence in HPLC, GLC, tissue culture, and animal experimentation desirable. Starting salary: \$19,000 to \$21,000, plus fringe benefits. Send résumé and three references to: Dr. P. V. Subbaiah, Section of Endocrinology and Metabolism, Rush-Presbyterian-St. Luke's Medical Center, 1753 West Congress Park-way, Chicago, Ill. 60612.

#### **POSITIONS OPEN**

POSTDOCTORAL POSITION: MECHANISMS OF CYTOTOXICITY OF A NUCLEOSIDE ANTICAN-CYTOTOXICITY OF A NUCLEOSIDE ANTICAN-CER AGENT. Project involves study of the conver-sion of the agent to nucleotides and the effect of these on several enzymes involved in DNA synthe-sis. Work involves purification and radioisotopic assay of enzymes, cell culture and selection of resistant mutants, and measurement of nucleotide pools by HPLC. Applicants should have a strong background in protein purification and/or enzymolo-gy. Starting salary: \$20,000. Position renewable after 1 year for up to 3 years. Starting date: January 1986. Send curriculum vitae and three letters of recom-Send curriculum vitae and three letters of recommendation to: Dr. Raymond L. Blakley, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, Tenn. 38101. Equal Opportunity Employ-

A POSTDOCTORAL POSITION is available immediately to study the role of cell surface proteases and diately to study the role of cell surface proteases and endogenous protease inhibitors in the establishment of metastases. Experience in protein isolation and/or protease biochemistry required. Opportunities exist for development of independent research on the immunobiology of cancer. The appointment is for 2 years. Salary commensurate with experience. U.S. citizenship or immigrant visa required. Send curriculum vitae and the names of three references to: Stephen J. LeGrue, Ph.D., Department of Immunology (178), University of Texas System Cancer Center, M.D. Anderson Hospital and Tumor Institute, Houston, Texas 77030.

An Equal Opportunity/Affirmative Action Employer

#### POSTDOCTORAL POSITION IN IMMUNOLOGY

An NIH-sponsored position (2 to 3 years) is available immediately in the Division of Pharmacology-Toxicology to study the role of the immune system in mediating drug-induced liver toxicity. Applicants should have experience with basic immunological should have experience with oasic infinuncion skills, theories, and concepts. Salary commensurate with experience. Please send curriculum vitae and names of three references to: A. Jay Gandolfi, Ph.D., Department of Anesthesiology, University of Arizona, Tucson, Ariz. 85724.

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#### **POSITIONS OPEN**

POSTDOCTORAL POSITION available immediaterosidoctoral Position available immediately for 3 years, to participate in an established program investigating the role of silicon in metabolic processes and gene expression of a lower eukaryote, and study: regulation of cAMP, cAMP-dependent protein kinase, and polyamines. Experience in methodologies pertinent to any of the above studies odologies pertinent to any of the above studies required. Salary starting at \$21,180. Send curriculum vitae, research experience, reprints, and three letters of reference to: Dr. B. E. Volcani, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, California 92093. Telephone: 619-452-2194. An Equal Opportunity/Affirmative Active Englanders

POSTDOCTORAL POSITIONS IN IMMUNOLO-POSTDOCTORAL POSITIONS IN IMMUNOLOGY. Positions are available for two postdoctoral fellows in basic cellular and molecular immunology laboratory. One position is for the analysis of the regulation of idiotype expression; it requires prior experience in cellular immunology and immuno-themistry. The other is for the analysis of the molecular basis of the regulation of Ia antigen expression in somatic cells; it requires experience in cell culture and eukaryotic molecular genetics. The postdoctoral training program involves a multidispostdoctoral training program involves a multidisciplinary approach and extensive collaborative interactions between laboratories having different ap-proaches to shared experimental goals. Please send a letter, curriculum vitae, and two letters of recommendation to: Dr. Charles A. Janeway, Jr., Department of Pathology, Division of Immunology, Yale University School of Medicine, New Haven, Conn. 06510. Yale University is an Affirmative Action/ Equal Opportunity Employer.

POSTDOCTORAL RESEARCH ASSOCIATE— September 1985. To study mechanisms of regulation of oncogene expression by biological response modi-fiers and antitumor agents. A strong background in hers and antitumor agents. A strong background in cell biology and biochemistry is required. Experience in molecular biology and/or recombinant DNA technology is preferred. Salary depending upon experience. Please send curriculum vitae, three references, and statement of research interests to: Dr. Dvorit Samid, Uniformed Services University of the Health Sciences, c/o Civilian Personnel, 4301 Jones Bridge Road, Bethesda, Maryland 20814–4799.

### **Postdoctoral Scientist Plant Enzymology**

The Agricultural Research Division of American Cyanamid Company has a postdoctoral position available immediately in the field of plant enzymology. The project will involve the purification and characterization of acetohydroxyacid synthase from higher plants. The characterization will include structural and kinetic studies on the mechanism of inhibition of the enzyme by our new class of herbicides. The project offers the opportunity for an individual with a minimum 0-2 years' experience to develop skills in enzymology as an independent researcher while making a significant contribution to a team effort in a major agricultural chemical company. company.

Applicants should have a Ph.D. in biochemistry with major emphasis in the purification and characteriza-tion of enzymes from plants. Applicants should also have demonstrated ability in the study of enzyme-in-hibitor interactions via kinetic and structural tech-

American Cyanamid offers a competitive compensation and benefits package. For prompt and confidential consideration, forward your resume to the Employment Office at:



#### CYANAMID

**American Cyanamid Company** 

Agricultural Research Division P.O. Box 400 Princeton, New Jersey 08540

An Equal Opportunity Employer, M/F/H

No Agencies Please

# Molecular Genetics

Smith Kline & French Laboratories, a leader in pharmaceutical research, is seeking additional technical staff to expand its current research programs employing recombinant DNA technology and other genetic approaches to develop novel therapeutic agents.

Excellent opportunities exist for innovative, interdisciplinary research in our new and superbly equipped Molecular Biology Center at Upper Merion in suburban Philadelphia. We encourage our staff to pursue advanced research, to publish and interact fully with the scientific community.

The Department of Molecular Genetics, under the direction of Dr. Martin Rosenberg, is recruiting for outstanding research associates/technicians with expertise in any of the following areas: gene cloning, gene regulation and expression (bacterial and mammalian), protein chemistry (purification, chemical modification, and HPLC technique), and tissue culture techniques.

Our compensation and benefits package including our relocation policy our compensation and benefits package microling our relocation pointy are geared to today's economy and are among the best in industry. For confidential review, send your C.V., salary expectations and names of 3 references to Mr. Walter B. Flagg, Senior Employment Consultant, SMITH KLINE & FRENCH LABORATORIES, a division of SMITHKLINE BECKMAN CORPORATION, 1590 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.



SCIENCE, VOL. 229 1320

#### **Research Scientists**

As we expand our diversified line of quality food products at Kraft, we are seeking talented scientists in our Basic Food Science Laboratory. Candidates must have Ph.D. or equivalent in chemistry, biochemistry or related fields for the following openings:

- Basic research on molecular interactions between proteins, polysaccharides and lipids in pasta or cheese and dairy products.
- Computer assisted molecular modeling of proteins to interpret protein physical-chemical
- Independent research in flavor chemistry. Minimum of 2 years hands-on experience with
- Basic research on the metabolism of proteins and other components to cheese flavor compounds.

Interested, qualified candidates please send resume with salary requirements, in confidence, to:

> Employment Supervisor **Kraft, Inc. Technology Center** 801 Waukegan Road Glenview, IL 60025



An equal opportunity employer

#### BW BIQTEC INC.

A newly formed joint venture between the Chicago-based biotechnology consulting firm, **BERNARD WOLNAK AND ASSOCIATES**, and **TOYO ENGINEERING CORPORATION** of JAPAN, is currently looking for qualified individuals in a number of disciplines to join our scientific staff. The focus of the company is to provide laboratory, development, scale-up, process design, and process engineering services to the biotechnology industry.

#### PROCESS DEVELOPMENT ENGINEER

The successful candidate will be responsible for pilot plant scale fermentations and the development of processes to recover products from fermentation beers, A B.S. or M.S. in Chemical Engineering and a minimum of 4 years experience in fermentation and recovery are required. Extensive experience in process development, design and construction of pilot plant for protein isolation, liquid-liquid separation, ion-exchange, and other recovery processes

#### STRAIN DEVELOPMENT SPECIALIST / GENETICIST

The individual will have a major role in a research effort to improve yields of antibiotics from selected strains of a variety of microorganisms. Applicants should have an M.S. or Ph.D. in microbiology or a related discipline, and extensive experience with the growth and genetics of antibiotic-producing organisms.

#### MAMMALIAN CELL CULTURE SCIENTIST

The successful candidate will be part of a team pursuing Applied Research in Mammalian Cell Culture at the process scale. An M.S./Ph.D. in the Biological Sciences or Bio Engineering is required, with a minimum of 2 years experience in GMP compliance and the large-scale culture of mammalian cells. Specific experience in Process Development is desirable.

Located in Chicago, **BW BIOTEC INC.** offers attractive salaries and benefits as well as a dynamic urban environment with access to excellent cultural, educational and recreational pursuits.

For prompt confidential consideration, please submit your resume to:

**Director of Human Resources** 

BW BIOTEC INC.

3570 N. Avondale Ave. Chicago, Illinois 60618

An equal opportunity employer.

ATTACH

LABEL

**HERE** 

### Research **Scientists**

Genzyme Corporation, a Boston-based biotechnological company with a commitment to developing carbohydrate and protein products for human therapeutic use, has openings for skilled scientists at the B.S., M.S., and Ph.D. levels with expertise in production and purification of proteins and polysaccharides.

Applicants should have experience in the biotechnology or pharmaceutical industries. Experience in the production or formulation of protein or carbohydrate based therapeutic products is a plus.

Genzyme offers a stimulating working environment and competitive salaries and benefits.

Qualified applicants should send their resumes with salary requirements, in confidence, to: Cindy Caracci.

> **Genzyme Corporation** 75 Kneeland Street Boston, MA 02111



#### **AAAS Memberships** and Subscriptions

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 ☐ \$60 USA
 ☐ \$125 air-surface delivery via Holland □ \$87 Foreign

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Name

Please print

State

Address

City

Zip

1321

SA16R95

#### CHAIRPERSON Department of Pathology

Jefferson Medical College of Thomas Jefferson University invites applications and nominations for the position of Professor and Chairperson of the Department of Pathology. Candidates must have a distinguished record of achievement in a field of research of current importance, strong interest in teaching at graduate and undergraduate levels and appropriate previous administrative experience. The position offers an excellent opportunity to develop an outstanding department in an atmosphere of strong university commitment to academic and scientific growth. Applications and nominations with a curriculum vitae and references should be sent to: Jussi J. Saukkonen, M.D., Search Committee for the Chairperson of the Department of Pathology.



Jefferson Alumni Hall Room M-63 1020 Locust Street Philadelphia, PA 19107

Equal Opportunity/Affirmative Action Employer

# Analytical Chemists

The Analytical, Physical, and Structural Chemistry Department of SK&F Laboratories, located in a new state of the art research facility near Valley Forge, is continuing its search for two experienced Analytical Chemists to join the Methods Development Section.

One position requires experience in the analysis and characterization of pharmaceutical compounds using various forms of chromatography, io1 selective electrodes, titrimetry and general physical methods.

The other position requires experience in method development and impurity profiling of pharmaceutical compounds using HPLC.

Candidates must have a M.S. in Analytical Chemistry (or B.S. in Chemistry and equivalent experience) plus several years of experience in the appropriate field and preferably have a working knowledge of FDA requirements. Familiarity with the Beckman - CIS CALS systems for data collection and processing is an asset.

We offer an excellent salary, benefits, and relocation package as well as the opportunity for personal and professional growth. Interested candidates may submit their resume in confidence to George P. Kissell, Jr., Manager, Personnel Relations, Smith Kline & French Laboratories, a division of SmithKline Beckman Corporation, 1560 Spring Garden Street, Phila., PA 19101. We are an equal opportunity employer, M/F/H/V.



#### **POSITIONS OPEN**

#### POSTDOCTORAL POSITION: PHYSICAL OCEANOGRAPHY

A position is available for a Ph.D. scientist competent in physical oceanography, starting 1 September 1985, with an annual minimum salary of \$21,720.

The successful applicant will be expected to work

The successful applicant will be expected to work closely with the Physical Oceanography Group. Existing research programs include circulation dynamics of continental shelves and submarine canyons; acoustic remote sensing of small scale turbulent mixing and sediment transport processes; buoyancy-driven flows; and studies of Lagrangian dynamics with particular application to eddy-diffusion. Members of the Group and other oceanographers on campus are cross-appointed to the Newfoundland Institute for Cold Ocean Science, which encourages multidisciplinary research. There is considerable oceanographic activity in St. John's and the successful applicant would have every opportunity to develop an independent research program consistent with the general objectives and interests of the Group. There is also an opportunity to participate in the teaching of oceanography courses.

teaching of oceanography courses.

Applicants should submit a résumé and the names, addresses, and telephone numbers of three references to (preference will be given to Canadian applicants):

Dr. D. H. Rendell, Head of Physics Physics Department Memorial University of Newfoundland St. John's, Newfoundland, Canada A1B 3X7

# PROFESSOR OF HISTORY AND PHILOSOPHY OF SCIENCE UNIVERSITY OF GENEVA FACULTY OF SCIENCES AND FACULTY OF HUMANITIES

Full-time appointment. The successful candidate should have a Ph.D. He/she is expected to teach at undergraduate and graduate levels and to create and lead a research program. Teaching in French is required, but a 1-year period of adjustment can be granted. Position available 1 October 1986, negotiable. Applications should be sent by 30 November 1985 to: The Secrétariat de la Faculté des Sciences, Université de Genève, 20 quai Ernest Ansermet, CH-1211 Geneva 4, Switzerland, where inquiries also can be sent

POSTDOCTORAL RESEARCH ASSOCIATE. Available beginning November or December 1985 to study biochemistry and biophysics of lens proteins. Applicants should have a background (Ph.D.) in physical biochemistry or biochemistry. Experience is desirable, but not essential. Initial appointment is for 1 year and may be renewed for an additional year. Salary commensurate with experience and qualifications. Minimum: \$18,000 per annum. Send curriculum vitae and three letters of recommendation to: Dr. B. Chakrabarti, Biophysics Laboratory, Eye Research Institute, 20 Staniford Street, Boston,

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The Division of Cardiology at the University of Texas Health Science Center at Dallas is requesting applications for a position as a RESEARCH ASSIST-ANT PROFESSOR OF MEDICINE to study the molecular biology of cardiac hypertrophy. Candidates should have a Ph.D. and more than five years of experience in molecular biology, oligonucleotide synthesis, artificial gene constructs, and standard cloning techniques. Prior experience with cardiac myofibrillar genes is required. Salary is commensurate with experience. Address inquiries to: Kenneth R. Chien, M.D., Ph.D., Department of Cardiology, University of Texas Health Science Center, 5323 Harry Hines Boulevard, Dallas, Tex. 75235. Equal Opportunity Employer.

#### RESEARCH ASSOCIATE IN MEMBRANE PHYSIOLOGY

A postdoctoral position is now available to study ion transport and intracellular pH regulation. The laboratory is part of an active group studying ion regulation in cells. Interested candidates should send résumé and three letters of recommendation to: Dr. Albert Roos, Department of Cell Biology and Physiology, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, Missouri 63110. An Equal Opportunity/Affirmative Action Employer.

#### **POSITIONS OPEN**

POSTDOCTORAL POSITIONS IMMEDIATELY AVAILABLE. (i) Microbial Geneticist: To develop a genetic system in a thermophilic clostridium. This includes cell fusion. Candidates with genetic experience in any system are preferred. (ii) Microbial Biochemist: To study protein expression in mutants of thermophilic archaebacteria/eubacteria employing two-dimensional gel electrophoresis. (iii) Microbial Ecologist: To study temperature influences on onaerobic biodegradation of recalcitrant compounds. Project in cooperation with the EPA-laboratories in Athens. Salary between \$16,000 and \$20,000, depending on experience. Send curriculum vitae, two letters of recommendation, and two names of references to: Dr. J. Wiegel, Department of Microbiology, University of Georgia, Athens, Georgia 30602.

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POSTDOCTORAL/RESEARCH ASSOCIATE position available for Ph.D. virologist to study the pathogenesis of HTLV-III infection of the central nervous system. Forward curriculum vitae with the names and addresses of three references to: Richard W. Price, M.D., Department of Neurology, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, N.Y. 10021. Equal Opportunity Employare, MIFLH

POSTDOCTORAL RESEARCH POSITIONS for M.D.'s or Ph.D.'s available immediately in the fields of connective tissue (collagen, elastin glycosamino-glycans) and photobiology. Stipend range is from \$24,000 to \$30,000 per annum. Faculty position is also available, depending upon experience. Please send curriculum vitae and names of references to: Dr. Raul Fleischmajer, The MOUNT SINAI SCHOOL OF MEDICINE, Department of Dermatology, One Gustave L. Levy Place, New York, N.Y. 10029. An Equal Opportunity Employer.

PSYCHIATRIST sought to fill full-time, tenure-track position as DIRECTOR OF THE SUBSTANCE ABUSE PROGRAM of the Department of Psychiatry, University of Michigan Medical School. Responsibilities include the coordination of clinical care, training, and research; teaching and supervision of residents and medical students; and basic and/or clinical research. Demonstrated experience and expertise in substance abuse are required. Board-certification in psychiatry, prior experience in research, or an ancillary interest or experience in geriatrics, brain imaging (PET, magnetic resonance), or neuroendocrinology are especially desirable. Send curriculum vitae to: Oliver G. Cameron, M.D., Ph.D., Director of the Adult Outpatient Program, Department of Psychiatry, University of Michigan Medical Center, Ann Arbor, Michigan 48109–0010. The University of Michigan is an Affirmative Action Employer.

RESEARCH ASSOCIATE. Excellent opportunity for an individual with at least 1 year of postdoctoral and graduate training in molecular biology to work in a Howard Hughes Medical Institute Laboratory at Duke University. Send curriculum vitae and bibliography and three letters of reference to: Dr. Ralph Snyderman, Box 3892, Duke University Medical Center, Durham, N.C. 27710.

#### RESEARCH TECHNICIAN Molecular Genetics

Master's degree in molecular genetics with 2 years of experience in recombinant DNA techniques, tissue cultures of mammalian cells. Send résumé to: Human Resources Department, ALLEGHANY GENERAL HOSPITAL, 320 East North Avenue, Pittsburgh, Pa. 15212. An Equal Opportunity Employer, M/F/H.

TECHNICIAN AND RESEARCH COORDINATOR POSITIONS—ECOTOXICOLOGY AND WATER QUALITY. Positions available 1 October 1985 at the University of Georgia's Savannah River Ecology Laboratory (SREL). Coordinator position: Manage a certified water quality laboratory. Strong management and analytical skills required. Technician position: Research in the area of trace element accumulation in aquatic biota. Strong analytical skills desirable. Candidates must be U.S. citizens. Send résumé and three letters of reference to: Ms. C. Newman, SREL, Drawer E, Aiken, S.C. 29801. Applications will be accepted until position is filled. An Equal Opportunity/Affirmative Action Institution.

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The Lovelace Inhalation Toxicology Research Institute offers outstanding opportunities to recent (within last 36 months) doctoral degree graduates to train at its internationally recognized laboratory in Albuquerque, New Mexico. Two year appointments are available for individuals with the following training:

- Doctoral degree in fields such as Biochemistry, Pharmacollogy, Toxicology, Molecular Biology, Chemistry, Medicinal Chemistry, Biophysics, Experimental Pathology or related fields.
- Three to four years of laboratory experience of the type typically associated with rigorous doctoral degree program.

The successful applicants will have the opportunity to work with our multidisciplinary staff of 50 doctoral degreed scientists in a modern and well equipped research environment. A wide spectrum of activities are under way including research to understand the physical and chemical properties of airborne materials and how these properties influence their toxicity, the toxicokinetics of inhaled materials and mechanisms of toxicity in mammals using in vitro and in vivo systems. Major investigations focus on the biology and pathbiology of the respiratory tract with emphasis on studying mechansims of induction of respiratory tract cancer.

These appointments will enhance the career options of individuals with good communications skills who desire to work in a multidisciplinary team environment. Starting stipend of \$20,000 per annum plus relocation and comprehensive health care benefits. U.S. Citizenship or permanent residency required. To apply, contact the Personnel Unit, Lovelace Inhalation Toxicology Research Institute, (505) 844-9431, or write to: P.O. Box 5890, Albuquerque, NM 87185.

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#### **POSITIONS OPEN**

POSTDOCTORAL TRAINING IN CLINICAL CHEMISTRY. Positions are available 1 July 1986 for basic scientists or physicians interested in careers as laboratory directors in academic laboratory medicine. Our 2-year program provides practical experience in clinical chemistry laboratories and extends relevant basic scientific knowledge. Deadline: 1 November 1985. Write to:

Dr. Margaret Kenny, Ph.D., Program Director Department of Laboratory Medicine, SB-10 University of Washington Seattle, Washington 98195

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# PROFESSOR AND CHAIRMAN DEPARTMENT OF INTERNAL MEDICINE ST. LOUIS UNIVERSITY SCHOOL OF MEDICINE

The St. Louis University School of Medicine announces the availability of the chair of the Department of Internal Medicine. The department currently consists of 126 full-time faculty members with 16 divisions and has had a long history of excellence in clinical medicine, education, and research. Plans for a new hospital facility which will replace the existing a new hospital facility which will replace the existing beds of the primary teaching hospital and considera-bly expand the research space of the Department of Medicine provide new opportunities for the incom-ing chairman. The School of Medicine seeks applicants who are experienced educators, scholars, and clinicians with established research credentials. Administrative and management competence are important. All applicants are requested to send curriculum vitae, letter of application, and list of at least three references to:

Dr. Thomas C. Westfall, Chairman Internal Medicine Search Committee
Department of Pharmacology
St. Louis University School of Medicine 1402 South Grand Boulevard St. Louis, Missouri 63104

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RESEARCH ASSISTANT PROFESSOR OR RE-SEARCH ASSOCIATE position (depending on quali-Alamos National Laboratory and the University of New Mexico, Department of Cell Biology, evaluating applications of monoclonal antibodies labeled with drugs, radionuclides, and paramagnetic agents. The position requires experience in tumor biology immunology. Salary commensurate with experience. Interested candidates should submit applica-tion to: Dr. William L. Anderson, Department of Cell Biology, 900 Camino de Salud, NE, University of New Mexico School of Medicine, Albuquerque, N.M.

RESEARCH POSITION IN UNDERWATER ACOUSTICS, Scripps Institution of Oceanography, Marine Physical Laboratory, Mail Code P-001, University of California, San Diego (UCSD), La Jolla, Calif. 92093. We seek an experimentalist in sonar or ocean acoustics. Ph.D., publications, and U.S. citizenship required. Assistant to associate level, depending on qualifications (\$32,800 to \$46,600). Direct inquiries to: Dr. V. C. Anderson at above address; telephone: 619-452-2304. The University of California San Diago, is an Equal Opportunity. California, San Diego, is an Equal Opportunity/ Affirmative Action Employer.

### RESPIRATORY OR CARDIOPULMONARY PHYSIOLOGY RESEARCH SCIENTIST

The Research Division of the Lovelace Medical Foundation has an opening for a respiratory or cardiopulmonary physiology research scientist. A Ph.D. or Ph.D./M.D. with established funding success and significant research experience in at least one of the following areas is required: Control of breathing, pulmonary ventilation, pulmonary gas exchange, or cardiovascular-pulmonary interaction. Experience in animal techniques desired, but back-ground or interest in human subjects also considground or interest in numan subjects also considered. Excellent opportunities for interdisciplinary program development. Send curriculum vitae, names of three references, and a brief statement of future research goals by 1 December 1985 to: Lovelace Medical Foundation, Human Resources Department, 5400 Gibson Boulevard, SE, Albuquerque, N.M. 87108.

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#### POSITIONS OPEN

RESEARCH ASSISTANT PROFESSOR—Non-tenure-track being recruited by the Division of Plastic and Reconstructive Surgery, Southern Illinois University School of Medicine. This faculty position will initiate, implement, and carry out research projects in the field of microvascular physiology and burns. Minimum qualifications for the position include a Ph.D. in physiology or a related field with a preference in vascular physiology. Interested applicants should send curriculum vitae to: Elof Ericksson, M.D., Associate Professor, Department of Sur-gery, Southern Illinois University School of Medicine, P.O. Box 3926, Springfield, Illinois 62708. Southern Illinois University School of Medicine is

an Equal Opportunity/Affirmative Action Employer.

**RESEARCH DIRECTOR** for the Zoological Society of San Diego. Develops and implements policies, procedures, and guidelines which direct the Society procedures, and guidelines which direct the Society's noninvasive research program. Plans new research efforts and directs a staff of 35 to do ongoing data gathering and analysis in pathology, endocrinology, microbiology, reproductive physiology, animal behavior, and genetics. Top notch salary and benefits program. Should have D.V.M., M.D., or Ph.D. in a biological science and management exercise in an animal-related institution ment experience in an animal-related institution. Send complete curriculum vitae to: Personnel, Zoological Society of San Diego, Box 551, San Diego, Calif. 92112.

#### RESEARCH FELLOW

The Department of Pathology, Division of Immunogenetics, is recruiting a research fellow to work on T-cell immunoregulation in man. Applicant must have a Ph.D. or M.D. degree and experience in working in the field of immunology. Responsibilities include research and supervision of a facility that develops new monoclonal antibodies against both develops new monoclonal antibodies against both soluble and cell surface antigens.

Box 196, SCIENCE

#### VASCULAR RESEARCH Ph.D. SCIENTIST

Major teaching medical center seeks individual to direct research activities of Radiation Oncology Dedirect research activities of Radiation Oncology Department, including developing and conducting scientific research, presenting at scientific meetings, and supervising in vivo and in vitro laboratories. Qualifications: related Ph.D., experience with biochemistry and vascular research, cell culture, and recombinant techniques. Position offers attractive compensation and academic appointment in affiliated medical school based on publication record and experience. Submit curriculum vitae to: Employment Manager. Department RO. ment Manager, Department RO.

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#### COLLOQUIUM

NEUROSCIENCE PROGRAM COLLOQUIUM DEVELOPMENT AND COMMUNICATION IN THE VISUAL SYSTEM Wayne State University, 10 October 1985

Speakers include Charles Cintron, William Harris, Speakers include Charles Cintron, William Harris, Joe Hollyfield, and Camillo Peracchia. The Scott memorial lecture, "The Morphological Basis of Visual Cortical Function" will be presented by Torsten Wiesel. For information, contact: Roberta Pourcho, Department of Anatomy, Wayne State University, School of Medicine, 540 East Canfield, Detroit, Mich. 48201. Telephone: 313-577-1002.

#### **FELLOWSHIPS**

#### POSTDOCTORAL FELLOWSHIP

Psychophysics and physiological optics. Two-year fellowship beginning July 1985 or later. Postdoctoral training in color vision and assessment of vision in clinical population. Send curriculum vitae and supporting material to:

Joel Pokorny, Ph.D. University of Chicago Department of Ophthalmology 939 East 57 Street Chicago, Ill. 60637

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#### **FELLOWSHIPS**

# MARKEY FELLOWSHIPS MOUNT DESERT ISLAND BIOLOGICAL LABORATORY

A recent grant from the Lucille P. Markey Trust enables the Mt. Desert Island Biological Laboratory (MDIBL) to offer research fellowships for summer 1986. Applications will be accepted from postdoctoral investigators in the biological/biomedical sciences who are in the early phase of their careers and have a record of productive, independent research. Fellowship recipients will receive laboratory space for all or part of the summer, plus housing and a supply allowance. The MDIBL is an independent research station which emphasizes the use of marine organisms as tools for basic biological research. Application forms and further information may be obtained by contacting: Dr. David Wynes, Administrative Di-rector, MDIBL, Salsbury Cove, Maine 04672. Tele-phone: 207-288-3605. Deadline for receipt of com-pleted applications is 1 December 1985.

#### WAYNE STATE UNIVERSITY Department of Physiology, School of Medicine

Applications are invited from suitably qualified individuals for appointments to TWO POSTDOCTORAL FELLOWSHIP POSITIONS. The research programs of the department cover a broad front, includgrams of the department cover a broad front, including haemostasis-thrombosis, endocrinology, neuropharmacology, renal physiology, membrane transport, cardiovascular physiology. Successful applicants will be expected to work closely with faculty members and to participate in the overall programs of the department. Applicants should have a Ph.D. degree with a relevant background or an equivalent professional degree. Salary: \$22,000. Appointments will be for 1 year initially, with the possibility of extension to 2 years. Please apply in writing, including curriculum vitae and the names and addresses of three academic

and the names and addresses of three academic referees, to: Dr. J. W. Phillis, Chairman, Department of Physiology, Wayne State University, 540 East Canfield, Room 5374 Scott Hall, Detroit, Mich. 48201, within 4 weeks of publication. Wayne State University is an Equal Opportunity/Affirmative Action Employer. tion Employer.

#### CONFERENCE

#### 2nd INTERNATIONAL **CONFERENCE ON INSECT NEURO-**CHEMISTRY AND **NEUROPHYSIOLOGY**

4 to 6 August 1986 at University of Maryland PLENARY SESSIONS, CONTRIBUTED PAPERS AND POSTERS

TOPICS will include insect neuropeptides, nonpeptide transmitters, and regulatory agents, nucleic acids, neurosecretory and neurotransmitter regulation of biological processes, organelle interaction, neuroanat-omy, and neurogenesis.

PARTIAL LIST OF PLENARY SPEAKERS: H. Breer, H. Ishizaki, M. O'Shea, S. Reynolds, and P. Taghert.

Attendance limited to 200 participants.

For information, write: ICINN '86 Registra-tion, INSECT REPRODUCTION LABORA-TORY, U.S. Department of Agriculture, Building 306, Room 119, BARC-East, Belts-ville, Md. 20705.

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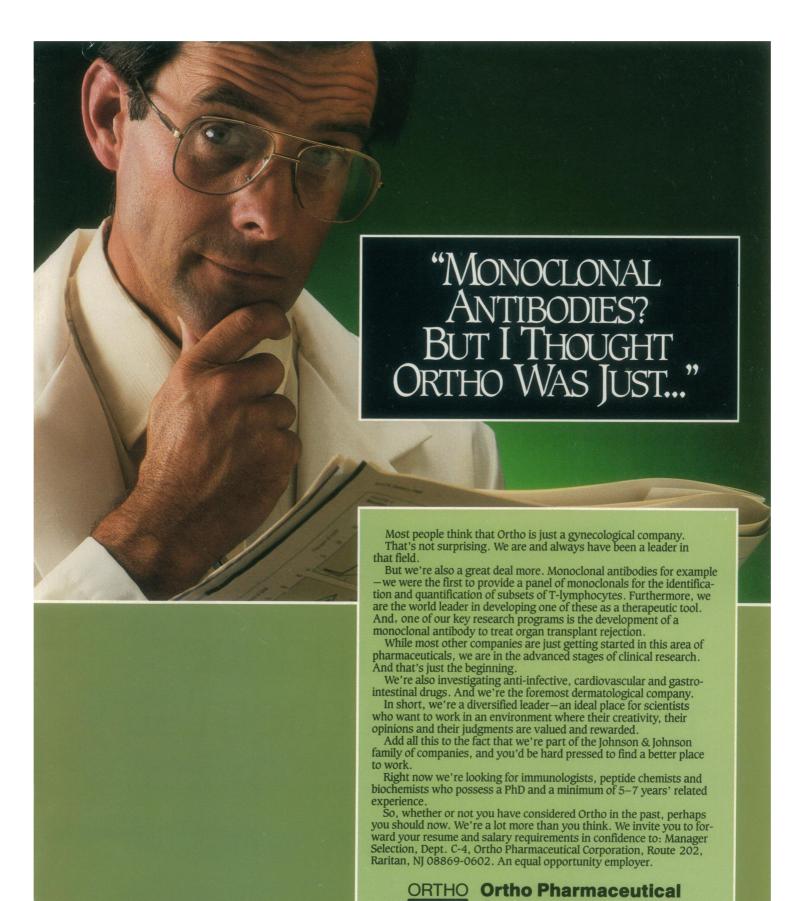
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