Incubation Hood

The Jumbo offers a convenient alternative to an incubator. It is suited to high-temperature applications with a range from 5°C above ambient to 90°C. It is accurate to within 0.2°C. It is equipped with a humidification, lighting, and cooling system. Its use of stainless steel plus insulation ensures that it will not heat the laboratory. The Jumbo will accommodate a TR-125 shaker with a large type-F tray (31.5 by 16.5 inches). It can also hold eight 2-liter flasks on the bench top. BEA-Enprotech. Circle 592.

Cell and Tissue Adhesive

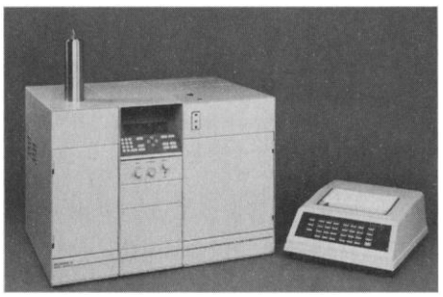
Cell-Tak is a biocompatible formulation of the adhesive protein of the common blue mussel, *Mytilus edulis*, designed for tissue culture use. Cell-Tak attaches cells and tissue to virtually any substrate including plastic, glass, and Teflon. Cell morphology and doubling time are unaltered and cells may be dispersed for subculture by standard enzymatic techniques. Cell-Tak is supplied as a sterile, aqueous solution. Cell attachment to plates coated with Cell-Tak is rapid and independent of the cell type used. Cells tested successfully to date include primary isolates of vascular endothelium, thymic epithelium, and rat brain neurons, as well as anchorage-independent lines such as U-937 human lymphoma. Typically, greater than 80 percent of the cells attach within 10 minutes of seeding. This rapid attachment also promotes cell-spreading and survival. BioPolymers. Circle 599.

Research Project Database

PURE (Present University Research Efforts) is a comprehensive catalog of research in progress at participating institutions. Membership of the Association of American Universities and 25 other schools have been invited to participate. The database includes project title, principal investigator, department, division, college, university, university address, agent for industrial relations, and telephone for agent. Abstracts may be included and descriptions of facilities as well. PURE is scheduled to be updated semiannually. Harperson Data Services. Circle 600.

Supercritical Fluid Chromatography

Model SFC/200A chromatograph may be used to analyze triglycerides, polymers or oligomers, surfactants, hydrocarbons, pesticides, and pharmaceuticals. Supercritical fluid chromatography (SFC) employs a mobile



phase which is a compressed gas above its critical temperature and critical pressure points. With SFC, both gas and liquid chromatography detectors may be used including FID, NPD, MS, UV, and packed or capillary columns. The SFC/200A is a microprocessor-controlled system that is capable of density, pressure or flow programming of supercritical mobile phases. The system comprises a high-pressure syringe pump capable of delivering microliter amounts of mobile phase, an SFC injection system, an oven, a flame ionization detector and various data acquisition options. Model SFC/200A can accommodate packed microbore or capillary columns. Nonvolatile, thermally labile, hard-to-derivatize, non-UV-absorbing analytes or complex mixtures that are difficult to analyze with gas or liquid chromatography are candidates for supercritical fluid chromatography. Suprex. Circle 591.

Custom DNA and Peptide Synthesis

Custom synthesis of polynucleotides and peptides is available. Synthetic DNA's are available in both normal and phosphorus-modified forms such as ethyl triesters. Mixed sequences, 5′-terminal labeling, and deoxyinosine substitutions are available. Larger scale custom DNA and peptide syntheses may also be performed. Synthetic Genetics. Circle 604.

Automated Pipettor

The Digiflex-CX incorporates RS232C computer interface capability. When used with a personal computer, the flexibility of storing and running complex protocols is greatly increased. The use of the PC can also combine the data storage of associated test information with the test protocol to be transmitted to the Digiflex-CX. The instrument is controlled from its own keyboard or from a PC that can send ASCII signals through the port. The Digiflex-CX may be used as a sample dilutor, reagent dispenser, or sample aliquoter by selecting one of the multiple modes: Sample/Dispense, Reagent/Sample Transfer, or Sample Transfer. In the Sample/Dispense mode, the selected (entered) sample volume is aspirated into the delivery tip. The sample is then dispensed and followed by the selected volume of diluent or reagent. One or two reagents may be delivered, each with different volumes, when the Digiflex-CX is used as a dispenser. The device is accurate to within 1 percent or 0.1 μl, whichever is greater. A display indicates volume selections. An audible tone assures positive volume selection when the operator presses the touch-sensitive keyboard or when a command has been sent via PC. Micromedic Systems. Circle 602.

Literature

X-Ray Spectrochemistry describes apparatus for sample preparation and an assortment of analytical accessories. Chemplex Industries. Circle 597.

Electrochemical Detectors is devoted to a line of laboratory equipment that is fully compatible with gradient elution and microbore chromatography. Bioanalytical Systems. Circle 598.

Liquid Chromatographs is a catalog that offers instrumentation and components for HPLC. New products include a post-column derivatization reagent system. Scientific Systems. Circle 607.

Hall Effect Integrated Circuits is an applications guide to simplify the selection of sensors and switches for a variety of applications. Sprague Electric. Circle 609.

Protein Separation is devoted to high-resolution, analytical services for industrial and research customers. Integrated Separation Systems. Circle 610.

Chemicals-Biochemicals is an extensive catalog of chiral building blocks, ionophores, "naked anions," polymer supported reagents, protecting group reagents, silylating reagents and silicon compounds, and strong and hindered nitrogen bases. Fluka Chemical. Circle 611.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

can also be modified by testosterone treatment in adult animals.

The possibilities of neuronal division and neurogenesis in adults are discussed in more detail in four chapters authored by Bayer, Kaplan, Rakic, and Anderson and Waxman. All present evidence for adult brain plasticity greater than would be expected on the basis of classic views of the potential for regeneration in mature brain.

This volume is easy to read, summarizes a substantial portion of current thought about brain recovery, and is, for the uninitiated, a useful review. The material covered is well known to most neurobiologists, and the treatment does not provide new insights. Rather, the volume serves as an entry for those outside the field who are curious about where studies of central nervous system regeneration are going.

JOSEPH B. MARTIN
Neurology Service,
Massachusetts General Hospital,
Boston, MA 02114

Membrane Transport

Transport and Diffusion across Cell Membranes. WILFRED D. STEIN. With a contribution by W. R. Lieb. Academic Press, Orlando, FL, 1986. xviii, 685 pp., illus. $79.50.

Wilfred Stein's new book is successor to his *The Movement of Molecules across Cell Membranes*, published in 1967. The book is an excellent introduction to current research in traffic across membranes. The author writes well and has an infectious enthusiasm for his subject. The treatment is molecular, biochemical, descriptive, and therefore easy to understand. Stein does not address questions of physiological function related to membrane transport, nor does he deal with theoretical problems, even such simple ones as thermodynamic requirements in bioenergetics. The book contains a wealth of biochemical reaction schemes and kinetic data to support them, and it has extensive (and useful) tables of V_{max}'s and K_m's and other such parameters. It is an ideal "starter" book for students who have had a course in biochemistry.

Stein devotes successive chapters to passive diffusion across bilayers, channels across membranes and their regulation, simple carriers (here he uses the old-fashioned term "facilitated diffusion"), cotransport systems, and primary active transport (the treatment of which is concerned almost entirely with ATP-linked systems). Good examples are provided for each category of molecular movement, with copious literature references. The most interesting part is the chapter on diffusion across bilayers, which is coauthored by W. R. Lieb. Not only is its topic a relatively neglected one (there are frequent symposium volumes on other types of transport), the authors give the reader a feeling for exciting unresolved controversy—though they don't mention that essentially the same issues have been debated since Overton's classic paper in 1899. (Overton, the "father" of membrane permeability, is in fact not cited anywhere in the book.)

Other chapters, though they correctly quote what might be called current dogma, tend to be too pat (controversy and unresolved problems slid under the rug), and the text is not always accurate as to detail. For example, in the chapter on primary active transport Stein refers to the binding of two rubidium ions per molecule of the Na,K-ATPase, which, he says, "is just the number one would expect for an enzyme that pumps two potassium ions per molecule of ATP split." The cited reference, however, gives a rather different picture: "our results suggest that three rubidium ions are occluded per alpha chain. That is embarrassing . . . because it does not fit with the stoichiometry of pumping." This is not an isolated example.

Unlike its predecessor, the book lacks an author index, and that limits its usefulness as a reference volume. I wanted to see what the book said about the Goldman equation and the Hodgkin-Huxley equations. The journal articles are listed in the bibliography, but I could not find where in the text they were discussed.

CHARLES TANFORD
Department of Physiology,
Duke University Medical Center,
Durham, NC 27710

Books Received

Avian Physiology. P. D. Sturkie, Ed. 4th ed. Springer-Verlag, New York, 1986. xiv, 516 pp., illus. $59.

Barawa and the Ways Birds Fly in the Sky. Michael Jackson. Smithsonian Institution Press, Washington, DC, 1986. xii, 212 pp., illus. $18.95. Smithsonian Series in Ethnographic Inquiry.

Basic Concepts in Population, Quantitative, and Evolutionary Genetics. James F. Crow. Freeman, New York, 1986. xiv, 273 pp., illus. $28.95; paper, $15.95. A book characterized by the author as "a shortened, less mathematical, updated version" of Crow and Kimura's *Introduction to Population Genetics* (1970).

Beyond the Bomb. Living Without Nuclear Weapons. A Field Guide to Alternative Strategies for Building a Stable Peace. Mark Sommer. Drawings by Ed Koren. Expro Press, Chestnut Hill, MA, 1986 (distributor, Talman, New York). xiii, 180 pp., illus. Paper, $7.95.

The Biochemistry and Physiology of Plant Disease. Robert N. Goodman, Zoltán Király, and K. R. Wood. University of Missouri Press, Columbia, 1986. xii, 435 pp., illus. $45.

Cowries of the World. C. M. Burgess. Gordon Verhoef and Seacomber Publications, Orlando, FL, 1985. xvi, 289 pp., illus. $95.

Database Design. A Classified and Annotated Bibliography. Maristella Agosti. Cambridge University Press, New York, 1986. iv, 92 pp. Paper, $16.95. British Computer Society Monographs in Informatics.

Depression in Young People. Developmental and Clinical Perspectives. Michael Rutter, Carroll E. Izard, and Peter B. Read, Eds. Guilford, New York, 1986. xviii, 550 pp., illus. $37.50

Dimensions and Entropies in Chaotic Systems. Quantification of Complex Behavior. G. Mayer-Kress, Ed. Springer-Verlag, New York, 1986. x, 257 pp., illus. $41. Springer Series in Synergetics, 32. From a workshop, Pecos River Ranch, NM, Sept. 1985.

Hunger. J. Le Magnen. Cambridge University Press, New York, 1986. x, 157 pp., illus. $34.50; paper, $14.95. Problems in the Behavioural Sciences, 3.

Hyperactive Children Grown Up. Empirical Findings and Theoretical Considerations. Gabrielle Weiss and Lily Trokenberg Hechtman. Guilford, New York, 1986. xvi, 367 pp. $32.50.

IBM's Early Computers. Charles J. Bashe *et al.* MIT Press, Cambridge, MA, 1986. xx, 717 pp., illus. $27.50. MIT Press Series in the History of Computing.

Ideal and Incompressible Fluid Dynamics. M. E. O'Neill and F. Chorlton. Horwood, Chichester, England, and Halsted (Wiley), New York, 1986. 412 pp., illus. $89.95. Mathematics and Its Applications.

Mechanisms of Host Resistance. To Infectious Agents, Tumors, and Allografts. Ralph M. Steinman and Robert J. North, Eds. Rockefeller University Press, New York, 1986. x, 459 pp., illus. Paper, $25. From a conference, Saranac Lake, New York, July 1985.

Moral Development and the Social Environment. Studies in the Philosophy and Psychology of Moral Judgment and Education. Georg Lind, Hans A. Hartmann, and Roland Wakenhut, Eds. Precedent, Chicago, 1986 (distributor, Transaction, New Brunswick, NJ). xviii, 327 pp., illus. $29.95. Precedent Studies in Ethics and the Moral Sciences. Translated with revisions from the German by Thomas E. Wren.

The Night After . . . Climatic and Biological Consequences of a Nuclear War. Soviet Scientists' Committee for the Defence of Peace Against Nuclear Threat. Mir, Moscow, 1985 (U.S. distributor, Imported Publications, Chicago). xviii, 165 pp., illus. $8.95. Translated from the Russian.

Overproduction of Microbial Metabolites. Strain Improvement and Process Control Strategies. Zdenko Veněk and Zdeněk Hošťálek, Eds. Butterworths, Boston, 1986. xvi, 308 pp., illus. $46.95. Biotechnology Series, 7.

Oxygen Transport in Red Blood Cells. Claude Nicolau, Ed. Pergamon, New York, 1986. xii, 192 pp., illus. $75. Advances in the Biosciences, vol. 54. From a conference, Tours, France, April 1984.

Palaeoecology of Africa and the Surrounding Islands. E. M. Van Zinderen Bakker, Sr., J. A. Coetzee, and L. Scott, Eds. Vol. 17. H. J. Deacon, Ed. Balkema, Boston, 1986. x, 260 pp., illus. $35. From a conference, Stellenbosch, South Africa, March 1985.

Pattern Recognition Mechanisms. Carlos Chagas, Ricardo Gattass, and Charles Gross, Eds. Pontificia Academia Scientiarum, Vatican City, and Springer-Verlag, New York, 1985. xvi, 359 pp., illus. $56. Experimental Brain Research Supplementum 11. From a study week, Vatican City.

Relevance. Communication and Cognition. Dan Sperber and Deirdre Wilson. Harvard University Press, Cambridge, MA, 1986. viii, 279 pp. $25; paper, $8.95. The Language and Thought Series.

The Retina. A Model for Cell Biology Studies. Part 1. Ruben Adler and Debora Farber, Eds. Academic Press, Orlando, FL, 1986. xvi, 363 pp., illus. $62.50. Cell Neurobiology: A Series.

Scientific Knowledge and Philosophic Thought. Harold Himsworth. Johns Hopkins University Press, Baltimore, 1986. viii, 115 pp. $12.50.

The Second Creation. Makers of the Revolution in Twentieth-Century Physics. Robert P. Crease and Charles C. Mann. Macmillan, New York, 1986. xii, 480 pp., illus. $25.

Seed Aging. Implications for Seed Storage and Persistence in the Soil. David A. Priestley. Comstock (Cornell University Press), Ithaca, NY, 1986. 304 pp., illus. $37.50.

The Social and Environmental Effects of Large Dams. Edward Goldsmith and Nicholas Hildyard. Sierra Club Books, San Francisco, 1986. xii, 404 pp., illus. $29.95.

Writing Culture. The Poetics and Politics of Ethnography. James Clifford and George E. Marcus, Eds. University of California Press, Berkeley, 1986. x, 305 pp. Paper, $9.95. From a seminar, Santa Fe, NM, April 1984.

Personnel Placement

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

LINE CLASSIFIED ADVERTISING DEADLINES:
12 September issue (mailed 5 September): **22 August**
19 September issue (mailed 12 September): **29 August**
26 September issue (mailed 19 September): **5 September**
3 October issue (mailed 26 September): **12 September**

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

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

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

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

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

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

Blind ad replies should be addressed as follows:

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

POSITIONS WANTED

Biochemist Ph.D., 1980, England. Extensive experience in protein and enzyme purification, characterization, sequence, HPLC, cell culture, cell technology, and so forth. Teaching and industrial experience, seeks position in research, teaching, or industry. Will consider short-term appointment. Available immediately. Box 142, SCIENCE. 8/22, 29

Cell Biologist/Immunologist, recent assistant professor at major East Coast university, Ph.D., 4 years of postdoctoral experience with monoclonal/polyclonal antibody technology and immuno- and protein chemistry. Research interests include sperm-surface antigens involved in fertilization. Active funding in the area of antiidiotype antibodies. Seeks position in industry or academics. Box 145, SCIENCE. X

Parasitology, D.V.M. Ph.D. Seeks industrial, academic, or overseas job opportunities. Ten years of experience in research and teaching. Excellent diagnostic skills. References available. Box 152, SCIENCE. X

POSITIONS OPEN

INTERNSHIP in small Coastal Biological Consulting firm. Available immediately, 1 year renewable, salary $16,200. Minimum skills required: B.S. degree in biology, typing, editing, and some bookkeeping ability. Learn wide range of consulting management skills. Pressure position; one-person office. Immediately send résumé, copy of grades, and letters of references to: **Dr. A. Thorhaugh, 1121 Crandon Boulevard, Suite E1005, Miami, FL 33149.**

POSITIONS OPEN

AGRICULTURAL/ENVIRONMENTAL SCIENTIST

Dynamac Corporation has immediate program needs that require experienced senior and junior level scientist (Ph.D. M.S.) with a background in one or more of the following:

PESTICIDES	CHEMISTRY
PLANT SCIENCE	BIOCHEMISTRY
ENVIRONMENTAL SCIENCE	SOIL SCIENCE

The successful applicants will be required to critically review and analyze published and unpublished pesticide data for their scientific validity and usefulness in meeting regulatory data requirements for pesticide registration. They will also prepare written reports based on their analysis. Strong writing skills, soil science, and chemistry background are absolutely essential. Knowledge of pesticide and pesticide regulation/registration is especially helpful. Dynamac Corporation offers competitive salaries and a fully paid employee benefits package. To apply, please send résumé in confidence to:

PERSONNEL DEPARTMENT
DYNAMAC CORPORATION
11140 Rockville Pike
Rockville, MD 20852

ASSISTANT PROFESSOR—BIOLOGICAL SCIENCES

Kent State University announces a tenure-track faculty position to support its expanding program in mammalian reproductive biology. Research training and experience should be at the cellular and/or molecular level. The successful candidate will be expected to pursue strong research programs in areas complementing the interests of the current faculty, collaborate in joint research projects, participate in recruiting and advising M.S. and Ph.D. students, and seek extramural funding. The appointee will have responsibility for undergraduate teaching in developmental biology and in the graduate area of his or her specialty. Salary will depend upon qualifications, experience, and potential. Effective date is January 1987.

Send résumé, statement of research aims, copies of transcripts, and three letters of recommendation by 15 September 1986 to: **Dr. Walter C. Adams, Department of Biological Sciences, Box 2, Kent State University, Kent, OH 44242.** *Kent State University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSORSHIP (tenure track) in wildlife and fisheries sciences, Texas A&M University, available to Ph.D. specializing in fish genetics, endocrinology, physiology, or other subdiscipline supportive of a vigorous teaching and research program in aquaculture. Teaching duties will include an undergraduate course in aquaculture and a graduate course in successful applicant's specialty. Send curriculum vitae, statement of professional goals, and names of three references by 1 October 1986 to

Dr. John D. McEachran
Department of Wildlife and Fisheries Sciences
Texas A&M University
College Station, TX 77843

Texas A&M University System is an Affirmative Action/Equal Opportunity Employer.

The University of Texas Health Science Center at San Antonio, Texas, Department of Obstetrics and Gynecology, invites applications for an **ASSISTANT PROFESSOR**. Ph.D. in endocrinology or related discipline. Requires strong background in biochemistry of reproduction and molecular biology with relevant experience in independent research and teaching. Training and experience in hormone-receptor interaction, radioimmunoassay, and purification of peptide hormones is necessary. Salary commensurate with experience. Interested persons should send a letter of application, curriculum vitae, and names of three references (will not be contacted without permission) to: **Carl J. Pauerstein, M.D., Professor and Chairman, Department of Obstetrics and Gynecology, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, Texas 78284–7836.**

An Equal Opportunity/Affirmative Action Employer

HARVARD UNIVERSITY ASSISTANT PROFESSOR CELLULAR AND DEVELOPMENTAL BIOLOGY (CDB)

The Department of Cellular and Developmental Biology intends to make an appointment at the assistant professor level effective 1 July 1987. We are seeking outstanding candidates in the field of molecular and developmental neurobiology. *We encourage applications from women and minority groups.* Applications should include curriculum vitae, reprints of publications, and a statement of research plans. Complete applications and **three letters of recommendation, solicited by the applicant**, should be received no later than 1 October 1986. Late applications may be considered. Send all material to:

Diane Baldwin, Administrator
CDB Search Committee
Cellular and Developmental Biology
The Biological Laboratories
Harvard University
16 Divinity Avenue
Cambridge, MA 02138

Harvard University is an Affirmative Action/Equal Opportunity Employer

---

ASSISTANT PROFESSOR (nontenure track). A person is sought with Ph.D. in biochemistry, molecular biology, or pharmacology, with 3 to 4 years of postdoctoral experience, and with firsthand experience in experimental aspects of measurements of receptor coupling mechanisms, in computer modeling of the interactions of receptors with their agonistic and antagonistic ligands and in cloning of membrane proteins using molecular biology and recombinant DNA techniques, to carry out work on an NIH-funded research project dealing with the elucidation of the molecular basis of distinct coupling modes of acetylcholine receptors in brain and heart. The position is available now. Interested persons should provide three reference letters which testify to their experience in the three areas mentioned above and contact in writing: **Dr. Lutz Birnbaumer, Professor, Department of Cell Biology, Baylor College of Medicine, Houston, Texas 77030.**

ASSISTANT/ASSOCIATE PROFESSOR

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

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

The University of Michigan, School of Natural Resources, is seeking applicants to fill a full-time, tenure-track, academic year appointment at the **ASSISTANT PROFESSOR LEVEL IN NATURAL RESOURCES POLICY ANALYSIS**. Research and teaching competence in the design and analysis of natural resource and environmental policies and policy processes is sought. Interests in conflict management or the policy aspects of hazardous waste or public lands management are encouraged, though candidates will be considered from a range of application areas.

Applications should submit curriculum vitae, list of publications, transcripts of college work, and letters of reference from three persons able to evaluate teaching and research skills. All materials should be sent to: **Dr. James E. Crowfoot, Dean, School of Natural Resources, 3516 Dana Building, The University of Michigan, Ann Arbor, MI 48109–1115.** Closing date: 27 October 1986, or until a suitable candidate is found.

A Nondiscriminatory, Affirmative Action Employer

COMPARATIVE ANIMAL PHYSIOLOGIST/ PHYSIOLOGICAL ECOLOGIST. The Department of Biology of The Pennsylvania State University invites applications for a tenure-track position at the **assistant professor** level in comparative physiology to begin either January or August 1987. A Ph.D. is required and postdoctoral experience is desirable. The specific area of research interest is open, but could include disciplines such as invertebrate toxicology, herbivore-plant defense interactions, body fluid dynamics, and neuroendocrinology. Duties include development of a high quality, externally funded research program, and teaching of one introductory and one upper level specialty course. Submit curriculum vitae, statement of research plans, and long-range goals, teaching interests, and three letters of recommendation by 15 October 1986 to: **Search Committee, Department of Biology, 208 Mueller Laboratory, Box A, Pennsylvania State University, University Park, PA 16802.** *An Equal Opportunity/Affirmative Action Employer.*

Director, Research and Development—Direct and coordinate technical aspects of trade and import/export activities to insure conformance of products with chemical specifications (of overseas medical regulations) through use of chemical analysis and testing. Test products for impurities, poisons, and insecticides. Study regulations with regard to import/export of pharmaceuticals. Keep abreast of any changes. Position requires knowledge of toxicology and experience in Middle Eastern and African business practices. B.S. in chemistry, with 2 years in job offered or 2 years as research biochemist. Forty hours per week, $30,750 per year. D.O.T. number 189.117.014. Mail résumé to: **New York State Job Service, Job Order Number NY 8019280, 175 Remsen Street, 2nd Floor, Brooklyn, NY 11201.**

The University of California at San Diego (UCSD) is seeking applications for the **DIRECTORSHIP** of the **Center for Astrophysics and Space Sciences (CASS)**. The director of CASS will either be, or receive an appointment as, a tenured faculty member of an appropriate university department. The applicant must have a distinguished record of research in an area of astrophysics and/or space science and must be prepared to provide scientific administrative leadership to the staff of CASS. The director of CASS will be expected to maintain an active research program and to participate in the training of students.

CASS is an organized research unit of UCSD. It currently has approximately 30 Ph.D.'s, plus supporting staff. Areas of research conducted at CASS include x-ray and gamma-ray astrophysics, solar physics, infrared astronomy, radio astronomy, extragalactic astronomy, and space plasma physics. In addition, CASS staff are participating in a number of major space projects including first and second generation instruments for the space telescope, the x-ray timing explorer, and international Solar-Terrestrial Physics Projects.

Salary range will be based on experience and on the university's pay scale. Send curriculum vitae and publication record to: **K. M. Watson, Director, Marine Physical Laboratory, Mail Code P-001, University of California San Diego, San Diego, CA 92152.** Closing date: 30 September 1986.

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

IMMUNOPATHOLOGIST

The Department of Pathology at Rhode Island Hospital seeks a **director for the Immunopathology Laboratory**. The successful candidate must qualify for a full-time medical faculty appointment at the rank of associate or full professor in the Department of Pathology and Laboratory Medicine in the Brown University Program in Medicine. Minimum requirements: M.D. or Ph.D. with immunopathology subspecialty qualification or certification (if applicable), 3 years of experience and substantial administrative skills to direct an expanding laboratory, and documented scholarly interests. Candidates versed in modern methods of immunology and molecular biology, and with funded research, will be given preference. Applications must be received by 30 October 1986. Please send curriculum vitae and names of three references to: **Tito Cavallo, M.D., Pathologist-in-Chief, Professor of Pathology, Rhode Island Hospital, 593 Eddy Street, Providence, RI 02902.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

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

DRUG METABOLISM RESEARCH POSITIONS

Two opportunities are available in our Drug Metabolism Department. The ideal candidate for the **senior research chemist** in the Analytical Group should have a Ph.D. in analytical chemistry, pharmaceutics, or related field with 1 to 3 years of postdoctoral experience in drug analysis, physiological HPLC, RIA, and GLC. This position will be responsible for developing analytical methods for new drug entities and may conduct nonclinical pharmacokinetic and pharmacodynamic studies while supporting human bioavailability and pharmacokinetic studies.

The anticipated opening in the In Vitro Group requires a Ph.D. in biochemical pharmacology, biochemistry, biopharmaceutics, or related field with 1 to 3 years of postdoctoral experience in drug metabolism, enzyme kinetics, and pharmacokinetics. Duties will include conducting studies to determine the effects of drugs and their metabolites on animal liver metabolic enzyme systems, and special binding characteristics of CP450 and associated enzyme systems in liver microsomes. Responsibilities will also include the determination of in vitro uptake and tissue distribution characteristics of drugs using isolated perfused organ techniques. Strong communication skills, written and oral, are necessary for both positions.

Excellent benefits, pleasant working and living environments, and a competitive salary commensurate with experience complement these professional, challenging positions. Please send résumé and salary requirements in confidence to:

Manager, Personnel R&D Division
A. H. Robins Company
1211 Sherwood Avenue
Richmond, VA 23220
Equal Opportunity Employer

EVOLUTIONARY BIOLOGIST

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

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

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

Saudi Arabia

RESEARCH OPPORTUNITIES

The **King Faisal Specialist Hospital and Research Centre**, a 500-bed acute care facility, is currently seeking highly qualified individuals for the following positions in the **Research Centre:**

SCIENTIST I

PhD - SCIENCE OR ENGINEERING; 15 years experience including molecular biology techniques applicable to human biochemical genetics. Proposed topics of research include studies of inborn errors of metabolism, insulin gene polymorphisms, and oncogenes in leukemia, lymphomas and other human tumors.

SCIENTIST III

PhD-Biological and/or Physical Science research background: Radiation Biology. 5 years minimum experience required. With MS or BS, 7 years experience required. Familiarity with Mammalian Cell Culture Techniques with emphasis on Clonogenicity Assay and experience with experimental animals.

SCIENTIST III

MS OR PhD - 5 years minimum experience with PhD, 7 years minimum experience with MS. Experience preferred in work on the Electrophysiology of the heart and electrophysiological techniques including voltage clamping and other intracellular investigational techniques.

SCIENTIST III

MS OR PhD - 5 years minimum experience with PhD, 7 years minimum experience with MS. Prefer an interest in receptor biology, mechanisms of hormone action and/or intracellular regulatory mechanisms with experience of immunolocalization or in situ hybridization techniques. Possible topics of research could include tumor biology, thyroid disease, diabetes mellitus, reproductive biology, or cellular interactions within the immune system.

For further information and/or to apply, please send a detailed resume to: **HCA International Company, One Park Plaza, Nashville, TN 37202 or call toll-free 1-800-251-2561.** HCA is an Equal Opportunity Employer.

HCA International Company

Graduate Opportunities in Chemical and Life Sciences

Biology
Biochemistry
Botany
Ecology
Marine Biology
Microbiology
Molecular Biology
Physiology
Vertebrate Zoology

Biomedical Sciences
Medical Laboratory Science
- Clinical Chemistry
- Hematology
- Immunology
- Medical Microbiology

Medicinal Chemistry
Pharmaceutics
Pharmacology
Toxicology

Biophysics
Laser Light Scattering
Heme Proteins

Chemistry
Analytical Chemistry
Inorganic Chemistry
Organic Chemistry
Physical Chemistry

Northeastern University offers part- and full-time programs leading to the master's and doctoral degrees. Research opportunities are available in all disciplines. University resources include the Center for Electron Microscopy, the Barnett Institute of Chemical Analysis and Materials Science, and the Marine Science and Maritime Studies Center.

Fellowships, teaching assistantships, and other forms of financial support are available for qualified candidates.

For further information, contact:
Northeastern University
Professor Gwilym S. Jones
414 Mugar Hall
360 Huntington Avenue
Boston, Massachusetts 02115
Telephone: 617-437-2851

Please indicate your area of interest.

GRADUATE PROGRAMS AT NORTHEASTERN UNIVERSITY

Northeastern University is an equal opportunity/affirmative action educational institution and employer.

N.U.P.3.5.6a

U.S. PATENT AND TRADEMARK OFFICE

POSITION: **Microbiologist/Patent Examiner**
Opportunity involves the scientific and legal evaluation of patent applications involving recombinant DNA, molecular immunology, molecular genetics, cell biology or clinical chemistry.

QUALIFICATIONS: A full 4-year or longer professional curriculum in an accredited college or university leading to a Bachelor's Degree or higher with specific study in Molecular Biology, Biochemistry, Immunology or Cell Biology.

A Ph.D. is preferred. An equivalent M.S. degree with relevant research experience will be considered.

Research Experience in any of the following areas would be beneficial: DNA cloning, gene expression, sequencing techniques, hybridoma technologies, monoclonal antibody applications, cell culture, immunoassays, hybridization techniques, diagnostics and automation of clinical analysis.

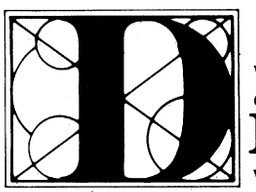
SALARY: Dependent upon experience and qualifications.

LOCATION OF POSITION: Arlington, VA

For further information contact:

Nancy Strother
Patent and Trademark Office
Office of Personnel, C&E
CPK 1, Suite 700
Washington, D.C. 20231
703-557-1244

Protein Biochemists



What will you Discover when you join Lederle?

At Lederle Laboratories, our response to diverse human health needs arises from a solid commitment to innovation and discovery. To help us in this effort, we are looking for two qualified scientists to join our Medical Research Division's expanding monoclonal antibody research program.

Responsibilities will include development and application of new techniques for conjugating drugs to monoclonal antibodies and there analysis. You'll need to be capable of working independently as well as on a research team.

The individuals we seek will have a Ph.D. in biochemistry or biological chemistry with experience related to chemical modification of antibodies, purification of conjugates, and analytical evaluation of products. In one position, a secondary background in chemistry and/or handling of radioisotopes is preferred. In the other position, a background in spectroscopic techniques to study protein/protein and protein/drug interactions is preferred.

At Lederle, you'll find a stimulating, highly professional research environment in beautiful Rockland County, just 35 miles from New York City. For immediate consideration, forward your CV and brief history of related research to: Mrs. N. Levine, American Cyanamid Company, Lederle Laboratories, Pearl River, NY 10965. Cyanamid is an equal opportunity employer m/f.

Lederle

Dedicated People
Dedicated to People
Since 1906

THE SCIENCE RECRUITMENT "FOUR DAY CLOSE"

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

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

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

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

You can call it "INSTANT RECRUITMENT."

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

CURRENT DISTRIBUTION 160,000

SENIOR BIOCHEMIST
Peptidase Research

The Squibb Institute for Medical Research is recognized as an international leader in the research and development of pharmaceutical products and in novel approaches to the development of new therapeutic agents. Due to our continued interest in the roles of peptides and peptidases in cardiovascular disease, we are currently seeking a highly qualified biochemist/enzymologist to participate in interdisciplinary studies on biologically important peptidases.

A qualified applicant must have a Ph.D. in Biochemistry with 5 to 8 years of postdoctoral experience, and must have experience in the purification and characterization of enzymes, and a thorough knowledge of modern spectrophotometric, radiochemical, and chromatographic techniques, particularly as applied to the study of peptides. The successful applicant will work closely with Pharmacologists, Organic Chemists, and other Biochemists in highly collaborative research directed toward the development of novel therapeutic agents.

The Squibb Institute is located in Princeton, NJ, a pleasant semi-rural setting convenient to both Philadelphia and New York City. In addition to our excellent salary and comprehensive benefits package, we offer the opportunity for exceptional scientists to pursue stimulating careers.

For confidential consideration, please submit your curriculum vitae to: **The Squibb Institute for Medical Research, Human Resources Department 390, P.O. Box 4000, Princeton, NJ 08543-4000.** An equal opportunity employer.

SQUIBB

Where science comes to life.

Research Scientist

Praxis Biologics is at the forefront in combatting childhood infectious diseases. Join us for an opportunity to contribute to the development of new vaccines.

At our Rochester, N.Y. facility, you will pioneer research developments for immunochemical assay methods. This involves quantification and identification of antibodies, carbohydrates and protein antigens. Requirements include a PhD in Biochemistry or Immunochemical Science with 3 years experience, preferably with industrial specialization.

Investigate your strong professional prospects, competitive salary and full benefits from the expanding leader in biologicals. For confident consideration, please send resume/curriculum vitae to: **Praxis Biologics, Human Resources Department, 300 East River Road, Rochester, NY 14623.**

PRAXIS
BIOLOGICS

Equal Opportunity Employer.

PROJECT ASSOCIATE IN CELL BIOLOGY AND POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS

at the Integrated Microscopy Facility for Biomedical Research (IMF) at the University of Wisconsin-Madison

Two positions are available. The IMF offers high voltage electron microscopy, video-enhanced light microscopy, low voltage scanning electron microscopy, and tandem scanning reflected light microscopy.

1. **Project Associate in Cell Biology.** Applicants should have a Ph.D. in cell biology and five years of practical experience in all phases of structural investigations with modern techniques, including transmission electron microscopy and, ideally, computer-based video-enhanced light microscopy, scanning electron microscopy, and immunofluorescence and immunoelectron microscopy. The successful individual will be expected: 1. to participate in core research projects which integrate high voltage electron microscopic analyses with video-enhanced studies and fluorescence imaging; 2. to collaborate on research projects with investigators on campus and nationwide; 3. to assist and instruct users in the operation of the million volt HVEM, video-enhanced light microscope, and eventually, the tandem scanning reflected light microscope and the low-voltage scanning electron microscope; 4. to assist in the training, dissemination and administrative activities of the IMF. Salary: $22,000–$27,000 annually.

2. **Postdoctoral Research Associate.** Applicants should either have a Ph.D. in cell biology or expect to earn this degree prior to the start of this appointment. Research interests in utilizing and developing the usage and integration of several sophisticated microscopes for the study of cellular dynamics are particularly encouraged. Salary: NIH rates for postdoctoral investigators.

In addition, the Integrated Microscopy Facility for Biomedical Research welcomes all qualified investigators to conduct studies requiring high voltage electron microscopy (HVEM), video-enhanced light microscopy, and in the near future, low-voltage scanning electron microscopy and tandem scanning reflected light microscopy. Travel funds for first-time users and short-term stipends for doctoral and postdoctoral visitors are available on a competitive basis.

Please forward a curriculum vita with a list of individuals who could be contacted for letters of recommendation and two recent reprints, by *September 15, 1986*, to:

Dr. Gerald Schatten, Director
Integrated Microscopy Facility for Biomedical Research
University of Wisconsin-Madison
1675 Observatory Drive
Madison, WI 53706

An Equal Opportunity Employer, M/F.

MACROMOLECULAR CRYSTALLOGRAPHY

The Protein Engineering Group at Monsanto's World Headquarters and Research Center is seeking a Ph.D Protein Crystallographer as part of its expanding research program in understanding protein structure-function relationships.

The successful candidate must have a Ph.D in a relevant discipline and a strong background in the practical aspects of Protein Crystallography, including crystallization, data collection, structure solution and refinement and molecular modeling.

Responsibilities of this position emphasize collaboration with Monsanto scientists on problems of protein structure and design. This is an opportunity to work within a group of established Protein Crystallographers.

Monsanto, a leader in biotechnology, offers one of the best equipped crystallographic and molecular modeling laboratories in the country. Equipment includes two Rigaku 12 KW rotating anode X-ray generators with one AFC5 single counter diffractometer and a dual chamber area detector system with a dedicated VAX 11/750 computer. Computing facilities include a VAX 11/780 computer with two Evans and Sutherland PS300 graphics terminals, and an FPS-264 array processor.

Send resume and letter of reference to: **MONSANTO COMPANY; 800 N. Lindbergh Blvd.; Mail Code 02G; Box MAS; St. Louis, MO 63167.** An Equal Opportunity Employer M/F/H/V.

Monsanto

POSITIONS OPEN

ELECTRON MICROSCOPIST: Research associate level position available immediately for studies of low temperature and freeze-induced alterations in membrane ultrastructure. Experience in freeze-fracture of membranes/vesicles/liposomes and knowledge of lipid mesomorphism desirable. Send curriculum vitae and three letters of reference by 15 September to: **Peter L. Steponkus, Department of Agronomy, Cornell University, Ithaca NY 14853.**

An Equal Opportunity/Affirmative Action Employer.

GROSS ANATOMY—NEUROSCIENCE

The Department of Anatomy, Loyola University of Chicago Stritch School of Medicine invites applications for a tenure-track position at the **assistant professor** level. Candidates should have completed the Ph.D. or M.D. degree and preferably have one or more years of postdoctoral training. The successful applicant must be qualified to teach human gross anatomy and will be expected to develop a strong research program in neuroscience. Send a letter of inquiry, curriculum vitae, and the names of three references by 1 October 1986 to: **Anthony J. Castro, Ph.D., Professor of Anatomy, Loyola University of Chicago, Stritch School of Medicine, 2160 South First Avenue, Maywood, IL 60153.** *Affirmative Action/Equal Opportunity Employer.*

INSTRUCTOR. Teach medical and graduate students in arena of interface between basic science and clinical medicine. Conduct research in immunochemistry and recombinant DNA. Require M.D. with postdoctoral training in immunochemistry and recombinant DNA research. Require experience at screening recombinant libraries for rare genes and clinical experience in rheumatic diseases. Require strong background in interface between basic science and clinical medicine, especially in microbiology and virology. Require teaching experience in basic science and clinical medicine. Send curriculum vitae and letter of introduction to: **J. Donald Capra, M.D., University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235.** *An Equal Opportunity Employer.*

MOLECULAR BIOLOGIST, tenure-track faculty position at level of **assistant/associate professor** for fall, 1987, contingent upon budgetary approval. Expected to establish a strong, independent research program; teach introduction to molecular biology, a graduate-level course in his/her area of specialty, possibly participate in molecular genetics or general virology. Preference given to those who employ recombinant DNA methodologies in the study of eukaryotes, and who possess enthusiasm for applying/sharing molecular biological methods within milieu of a diversified biology department. Postdoctoral experience and demonstrated promise for teaching excellence and for obtaining extramural support are required. Deadline: 26 September 1986. Send curriculum vitae, statement of research goals, and three letters of reference to: **Dr. Donald O. Natvig, Molecular Biologist Search Committee, University of New Mexico Biology Department, Albuquerque, NM 87131.** *Affirmative Action/Equal Opportunity Employer.*

NUTRITION SCIENCE. The Department of Food Science and Nutrition, University of Minnesota, seeks applicants for full-time, tenure-track assistant professor, to develop independent research program in nutrition science related to intermediary metabolism of macronutrients, teach courses, and advise graduate and undergraduate students. Some support for research provided, but ability to attract external funding essential for success. Salary competitive, with attractive fringe benefits. Start 1 January 1987, or as arranged. Must have Ph.D. in nutritional biochemistry or related area. Postdoctoral experience helpful, but not required. Department occupies own building complex on Twin Cities campus of the university, with strong research and teaching programs in both food science and nutrition, and active cooperation with medicine, biochemistry, animal science, and other units. Apply by 15 September 1986, with detailed résumé and names of at least three references to: **Dr. E. F. Caldwell, Head, Department of Food Science and Nutrition, University of Minnesota, 1334 Eckles Avenue, St. Paul, MN 55108.** *The University of Minnesota is an Equal Opportunity Educator and Employer, and specifically invites and encourages applications from women and minorities.*

MASSEY UNIVERSITY
PALMERSTON NORTH
NEW ZEALAND

LECTURER IN DEVELOPMENTAL BIOLOGY

Applications are invited for the above position in the Department of Botany and Zoology. Consideration will be given to all suitably qualified applicants with a higher degree, but preference will be given to an applicant with a general biological background and research experience and/or special interests in plant development.

The appointee will be responsible for teaching courses in developmental biology at the undergraduate and postgraduate levels, teaching internal and extramural students in botany at the undergraduate level, and establishing and developing research in their own field of interest.

Salary: $NZ30,500 to $35,000

Further details and conditions of appointment are available from **B. R. H. Monks, Registrar**, with whom applications close on 12 September 1986.

LECTURESHIP IN ENTOMOLOGY. The University of ADELAIDE, SOUTH AUSTRALIA, invites applications from both women and men for a lectureship (tenurable), available immediately, in the Department of Entomology located at the WAITE AGRICULTURAL RESEARCH INSTITUTE, SOUTH AUSTRALIA. The appointee will be required to undertake original research, supervise postgraduate students, and teach undergraduate courses. The department will be particularly interested to receive applications from entomologists with expertise in pesticide management, especially that concerned with one or more of the following: the effects of pesticides on insect population dynamics and genetics; the range and use of pesticides; the chemistry of pesticides. The department would also be interested to receive applications from persons with expertise in the molecular biology of insects or their pathogens, as they apply to the management of insect populations. Further information concerning the duties of the position may be obtained from **The Chairman, Professor D. E. Pinnock, Department of Entomology, telephone 618 372 2444**. Annual salary AUS $27,859 × 7 – AUS $36,600. Applications, in duplicate, quoting reference number 1084 giving 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, Telex UNIVAD AA 89141**, not later than 17 October 1986. *The University of Adelaide is an Equal Opportunity Employer.*

DALLAS, University of Texas Health Science Center is seeking **Ph.D. PSYCHOLOGIST** with research experience in violent and aggressive behavior. Must be experienced in university setting. Must fund part of salary from grants. Inquiries to: **K. Z. Altshuler, M.D., Chairman, Department of Psychiatry, University of Texas Health Science Center, 5323 Harry Hines, Dallas, TX 75235–9070.** *An Equal Opportunity Employer University.*

Ph.D. OR POSTDOCTORAL RECEPTOR PHARMACOLOGIST, ENTRY LEVEL. Research to elucidate role of peptidergic transmitters and inflammatory mediators in respiratory diseases. Includes kinetics, pharmacodynamics modeling, general receptor pharmacology, and design and testing of inhibitors. Strong background in receptor binding assays required. Experience with kinins and tachykinins desirable. Send résumé and publication list to: **Dr. T. J. Logan, Manager, Ph.D. Recruiting, Receptor Pharmacologist Position, Procter & Gamble Company, P.O. Box 39175, Cincinnati, OH 45247.** *An Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATE. Position available January 1987, for research on the behavioral pharmacology of opioid drugs and peptides in small primates and rodents. Applicants should have recent doctorate in pharmacology or other basic medical science or in experimental psychology. Skill in stereotaxic surgery and in use of microcomputers is desirable. Send curriculum vitae and names of three references to: **Dr. Stephen G. Holtzman, Department of Pharmacology, Emory University School of Medicine, Atlanta, GA 30322.**

An Affirmative Action/Equal Opportunity Employer.

PHARMACOLOGY FACULTY POSITION

The Department of Veterinary Biology at the University of Minnesota, College of Veterinary Medicine, invites applications for a full-time, 12-month, tenure-track position at the assistant or associate professor level beginning July 1987 or later. The department includes 16 faculty members in the disciplines of anatomy, biochemistry, pharmacology, and physiology. The college is located on the Twin Cities campus in St. Paul where faculty have opportunities to interact with colleagues in many other parts of the university including the Medical School, the College of Biological Sciences, the Institute of Technology, and the College of Agriculture. Applicants must have a Ph.D. or a D.V.M./Ph.D. (or equivalent degrees from foreign institutions). Preference will be given to people with experience and interest in veterinary clinical pharmacology. Assistant professor must have a D.V.M. and a Ph.D. or a Ph.D. plus at least 1 year of postdoctoral experience or training. Associate professor must also have at least 5 years of postdoctoral research experience, demonstrated success in teaching, and a funded independent research program. The successful applicant will be expected to select an area of specialization in which to offer graduate courses, participate in teaching the pharmacology of antimicrobial and anthelmintic drugs to veterinary students, and attend clinical rounds. The individual will also be expected to develop strong, independent research and graduate programs using modern pharmacological approaches. Curriculum vitae, a statement of research interests, and three letters of reference should be sent to: **Dr. Alice A. Larson, Department of Veterinary Biology, 295 Animal Science/Veterinary Medicine Building, University of Minnesota, St. Paul, MN 55108, by 15 November 1986.**

The University of Minnesota is an Equal Opportunity Educator and Employer and Specifically Invites and Encourages Applications From Women and Minorities.

POSTDOCTORAL ASSOCIATE

We are seeking an individual with a Ph.D. to be part of an ongoing research project to investigate the effects of chemical carcinogens on gene expression, amplification, and protooncogene activation using animal models. Candidates should have experience in biochemistry and/or molecular biology.

Please send curriculum vitae and the names of three references to: **Professor Gerald W. Wogan, Department of Applied Biological Sciences, Massachusetts Institute of Technology, 77 Massachusetts Avenue (16-333), Cambridge, MA 02139.**

MIT is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL ASSOCIATE POSITIONS (TWO) available October 1986 to investigate neuronal signaling by excitatory acidic amino acids and peptides. One project is to investigate ligand-receptor interactions of glutamate and phosphonate analogues of glutamate in synaptic membrane preparations. The other project is to quantitate structure-function relationships of acidic amino acid analogues and excitatory peptides by electrophysiological assays using brain slices. Please send curriculum vitae, names of three references, and a brief summary of professional goals to: **Dr. James F. Koerner, University of Minnesota, Department of Biochemistry, 4-225 Millard Hall, 435 Delaware Street SE, Minneapolis, MN 55455.** *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

POSTDOCTORAL BIOCHEMIST. To characterize toxin and immunotoxin internalization and processing. Ph.D. or equivalent required. Strong background in protein chemistry; experience in cell biology and immunology desirable. Available immediately with potential for further advancement. *An Affirmative Action/Equal Opportunity Employer.*

Send curriculum vitae and names and addresses of three references to:

Dr. John E. Leonard
U.C.S.D. Cancer Center, T-011
University of California, San Diego
La Jolla, CA 92093

The Marine Biological Laboratory
Woods Hole, Massachusetts

DIRECTOR

Distinguished biologist with substantial administrative experience and broad interests in biology to direct year-round research institution with large, pre-eminent summer teaching program. Salary competitive. Term of initial appointment five years, to begin anytime between November 1986 and August 1987. Send letter, **curriculum vitae**, and names of at least three references to:

Chairman, Search Committee
Marine Biological Laboratory
Woods Hole, MA 02543

The MBL is an equal opportunity/ affirmative action employer.

MARINE BIOLOGICAL LABORATORY • WOODS HOLE • 1888

PROCESS DEVELOPMENT ENGINEER MAMMALIAN CELL CULTURE

An industry leader in advanced biotechnology, **Amgen** develops products for significant applications including human therapeutics, human diagnostic animal health care and specialty chemicals. Several of our product development programs have progressed to a stage requiring larger scale process development efforts. We currently have an immediate opportunity for a **Process Development Engineer.**

Candidates should have a Ph.D. degree in Biochemical Engineering or related field and several years of relevent experience in the pharmaceutical or biotechnology industry. Experience in fermentation, biochemistry, and cell culture techniques is essential, preferably with knowledge of CGMP's.

Responsibilities include development of process scale-up programs and documentation leading to a GMP production process utilizing mammalian cells.

Amgen is located in an attractive community about an hour northwest of Los Angeles, and offers a stimulating and challenging scientific environment, as well as an attractive compensation and benefits program.

Qualified candidates should direct a resume including three references to: **Recruitment, Dept. 37a, Amgen, 1900 Oak Terrace Lane, Thousand Oaks, CA 91320.**

AMGen

An Equal Opportunity Employer

INVITRON

CELL CULTURE SUPERVISOR

A mammalian cell culture manufacturing company seeks a supervisor in the cell culture production department. Extensive previous experience with both anchorage dependent and independent cells is required along with a BS in Biology or a related science. Previous supervisory experience of 3 to 5 years in a pharmaceutical GMP/GLP environment is desirable. This is a hands on position requiring supervision of 4 to 5 professional technicians in a sterile contained environment. For immediate consideration please submit your resume to:

Mike Harris
INVITRON CORPORATION
8000 Maryland Ave.
Suite 860
St. Louis, MO 63105

An Equal Opportunity Employer

RECOVERY PROCESS DEVELOPMENT SCIENTIST

An industry leader in advanced biotechnology, **Amgen** develops products for significant applications, including human therapeutics, human diagnostics, animal care and specialty chemicals. Several of our product development programs have progressed to a stage requiring larger scale process development efforts.

Responsibilities include developing new recovery processes for rDNA derived products; prepare quantities of bulk drug for testing, formulation, etc. Develop innovative, economical large scale processes for preparation of protein products.

The position requires a Ph.D. in Biochemistry or related field plus a minimum of 2 years industrial experience. Familiarity with GMP's desirable.

Amgen is located in an attractive community about an hour northwest of Los Angeles, and offers a stimulating and challenging scientific environment, as well as an attractive compensation and benefits program.

Qualified candidates should direct a resume, including a list of publications, and three references to: **Recruitment, Dept. 16, Amgen, 1900 Oak Terrace Lane, Thousand Oaks, CA 91320.**

AMGen

Equal Opportunity Employer

POSITIONS OPEN

POSTDOCTORAL FELLOW

A position will be available in October 1986 for an applicant with a strong background in protein biochemistry or cell biology to study the structure and function of brain tyrosine protein kinase and its substrates. Please send curriculum vitae and names of three references to: **Dr. Eva J. Neer, Harvard Medical School, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115.** *Harvard University is an Equal Opportunity Employer.*

POSTDOCTORAL FELLOWS/RESEARCH ASSOCIATES: Positions available to study the molecular basis of chemical carcinogen enhancement of viral transformation; and the role of suppressor genes in regulating progression of the transformed cell phenotype. Background in molecular biology required. Please send curriculum vitae outlining academic training, research experience, a list of publications, and three letters of reference to: **Dr. P. B. Fisher, Department of Urology, Columbia University, College of Physicians and Surgeons, 630 West 168 Street, New York, NY 10032.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION—Available 1 October 1986 to study molecular mechanism of yolk protein synthesis in the mosquito. Biochemical experience is required, molecular biology experience desirable. Send curriculum vitae and three letters of recommendation to: **Dr. Alexander Raikhel, Department of Entomology, Michigan State University, East Lansing, MI 48824–1115.**

POSTDOCTORAL POSITION: Available immediately to study mammalian genital tract cell biology. Areas include regulation of hormone response, xenobiotic metabolism, and gene regulation. Tissue culture and molecular biology experience are desirable.
APPLY TO: Dr. Philip M. Iannaccone, Department of Pathology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611

POSTDOCTORAL POSITION to investigate a developmentally expressed growth factor which inhibits the growth of melanoma cells in culture. The growth factor will be isolated, biochemically characterized, and studied regarding its biology in the developing embryo and the nature of the effect on melanoma cells. Send curriculum vitae to: **Dr. Steven Carson or Dr. G. Barry Pierce, Department of Pathology (B216), University of Colorado Health Sciences Center, 4200 East Nine Avenue, Denver, CO 80262.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION
BOSTON UNIVERSITY

Postdoctoral position available immediately for Ph.D. to study brain androgen metabolism during development and its significance for brain and behavioral sexual differentiation in mammals. Background required in neuro- or behavioral endocrinology. Contact: **Dr. M. J. Baum, Department of Biology, Boston University, Boston, MA 02215.**

POSTDOCTORAL POSITIONS/HUMAN MOLECULAR GENETICS/BAYLOR COLLEGE OF MEDICINE. Postdoctoral positions are available in three research areas. Gene transfer and molecular techniques are being used to study gene regulation of urea cycle enzymes, with emphasis on metabolite regulation and enzyme overproduction for human argininosuccinate synthetase. Somatic gene therapy for human metabolic disorders is being investigated using citrullinemia as a model disease. A variety of approaches are being used with the goal of cloning and identifying the human gene for cystic fibrosis. Send curriculum vitae and names of references to: **Drs. Arthur L. Beaudet or William E. O'Brien, Howard Hughes Medical Institute, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030.** *Baylor College of Medicine is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available to study cellular and molecular mechanisms of synapse formation, focusing on the interaction of extracellular matrix with muscle and nerve cell surface components. Send curriculum vitae and names/telephone numbers of three references to: **Dr. Ralph M. Nitkin, Department of Biological Sciences, Rutgers University, 101 Warren Street, Newark, NJ 07102.**
Rutgers University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in microbiology and immunology is available immediately to study the molecular and immunological basis of cross reactions between group A streptococci and autoantigens. Previous experience in immunology desirable. Send curriculum vitae and three letters of reference to: **Dr. Madeleine Cunningham, Department of Microbiology and Immunology, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, OK 73190.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to study transformation, DNA metabolism, molecular genetics, and electrophysiology in cystic fibrosis and normal human airway epithelial cells. This program will involve biochemical and genetic characterization of primary and transformed epithelial cells. Background in mammalian molecular biology, recombinant DNA techniques, and chemical carcinogenesis desirable. Funding for up to 3 years; send curriculum vitae, brief description of research interests, and names of three references to: **Dr. Dieter C. Gruenert, Cardiovascular Research Institute/Cancer Research Institute, Box 0130, University of California Medical Center, San Francisco, CA 94143.**

POSTDOCTORAL POSITION. Mechanotransducer ion channels and the cytoskeleton: multidisciplinary studies patch clamp, video-processed light and electron microscopy, immunology, and isotope flux measurements. Experience with some or all of above techniques required. NIH salary on long-term grant. Send curriculum vitae and references to: **Dr. Fred Sachs, Biophysics, 105 Parker Hall, State University of New York (SUNY), Buffalo, NY 14214.** *Affirmative Action/Equal Opportunity Employer.*

DEPARTMENT OF MICROBIOLOGY AND MOLECULAR GENETICS NEW POSTDOCTORAL POSITION

Postdoctoral position available January 1987 to study protein structure-function relationships of the protein synthesis factor EF-1. The individual would pursue a protein-chemical approach to studying the post-translational methylation of the protein, and the role methylation plays in protein function. An ultimate goal is to clone the gene for the methylase. The project will be carried out in concert with the study of the organization and function of the three genes that control EF-1 structure. Preference will be given to candidates with experience in protein chemistry or enzymology or in vitro protein synthesis. Please send curriculum vitae and names of three references to:

Dr. Paul S. Sypherd
Department of Microbiology and Molecular Genetics
College of Medicine
University of California
Irvine, CA 92717

An Affirmative Action/Equal Opportunity Employer

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

TRUDEAU INSTITUTE

A **POSTDOCTORAL POSITION** is available to study the **immune response to tumors as a model of immunoregulation.** Candidates with training in cellular immunology, and interested in employing in vitro assays to analyze in vivo models of successful and unsuccessful immune responses should apply. A competitive salary and fringe benefits are offered and institute housing will be made available. Future employment is possible, depending on performance.

The Trudeau Institute is a not-for-profit pure research institute that specializes in studying the immunology of host defense mechanisms. It is located on the shore of Saranac Lake, 8 miles from Lake Placid, New York.

Send curriculum vitae and the names of three references to:

Dr. R. J. North, Director
Trudeau Institute, Inc.
P.O. Box 59
Saranac Lake, NY 12983

A POSTDOCTORAL POSITION is available immediately to study the role of **viral oncogene expression in murine leukemogenesis.** Experience in cell biology, molecular immunology, or molecular biology, and a general interest in immunobiology are desired. Salary is dependent upon experience, in accord with NIH guidelines. Subsidized housing is available.

The Trudeau Institute is a not-for-profit research institute located in the Adirondack Mountains on the shore of Saranac Lake, 10 miles from Lake Placid, NY. Send résumé and names of three references to:

David Hines
Trudeau Institute, Inc.
P.O. Box 59
Saranac Lake, NY 12983

POSTDOCTORATE POSITION available immediately in free radical chemistry and drug metabolism laboratory. Upon completion, tenure-track faculty position available. Starting salary: $22,000. Send résumé to: **Yutaka Kikkawa, M.D., Professor and Chairman, Department of Pathology, New York Medical College, Basic Science Building, Valhalla, NY 10595.**

POSTDOCTORAL POSITION available September 1986 for 1-year study of the role of hippocampal opioid peptides in seizure mechanisms. Experience with small animal neurosurgery, radioimmunoassay, and immunocytochemistry, as well as knowledge of convulsant and anticonvulsant drug actions desired. Starting salary $18,000. Application cut-off date: 1 September 1986. Send curriculum vitae and names of three references to: **Jacqueline F. McGinty, Department of Anatomy, East Carolina University, School of Medicine, Greenville, NC 27834.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available to study the adenylate cyclase toxin of *Bordetella pertussis.* Previous experience in biochemistry or molecular biology required. Send curriculum vitae, names of referees, and one recent publication to: **Dr. Richard Kessin, Department of Anatomy and Cell Biology, College of Physicians and Surgeons, Columbia University, 630 West 168 Street, New York, NY 10032.** Available 1 December 1986.

POSTDOCTORAL POSITION: EFFECT OF ACTIVE SITE MUTATION ON ENZYME FUNCTION. This project involves a study of the results of changes induced by site-directed mutagenesis in specific amino acid residues at the active site of an enzyme. Biophysical and biochemical methods will be used to study effects on binding and release of substrates, products, and inhibitors (including anticancer agents), on conformation changes and on the catalytic process. Applicants should have a strong background in enzymology. Starting salary for applicants with no postdoctoral experience $20,000. Position renewable after 1 year for up to 3 years. Send curriculum vitae and three letters of recommendation to: **Dr. Raymond L. Blakley, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.**

Manager, Bioassay Laboratory

Biogen, a leading biotechnology company with laboratories in the U.S. and Switzerland, has the following position available in our Cambridge facility.

Our Quality Assurance Department has an opening for a Manager in the Bioassay Group. You will be responsible for all bioassay work of the QA Department. Résponsibilities include:

- Manage staff in performance of routine cell culture-based and immunoassay methods measuring activity and stability of lymphokines and other recombinant proteins to support product releases, and immunoassays designed to measure active protein or antibodies in patient samples provided by Medical Research.
- Performs and manages development of new assays as required.
- Reports and interprets results of section work as required by other QA groups, other departments, licenses or regulatory agencies.

The ideal candidate will have ELISA, RIA and prior supervisory experience and direct experience in cell culture-based methods development. Ph.D./postdoctoral experience in immunology or a related field in which immunoassay and cell culture-based methods were significantly involved. Strong writing ability and verbal/personal skills in addition to being self-motivated and able to interact effectively with function and program managers.

Biogen offers an excellent compensation and benefits package. Please send your C.V. along with the names of three references to **Dept. MBL/27, Biogen, 14 Cambridge Center, Cambridge, MA 02142.**

An equal opportunity employer.

BIOGEN

آغا خان یونیورسٹی

THE AGA KHAN UNIVERSITY

Faculty of Health Sciences

Medical College

The Aga Khan Medical College is now in its third year of operation. Its affiliated Aga Khan University Hospital has well equipped teaching and service laboratories and will have 721 beds when fully operational. Our undergraduate curriculum in Medicine is intended towards integration of basic and clinical sciences.

Applications are invited from candidates who meet the requirements for the positions of

ASSISTANT PROFESSOR, DEPARTMENT OF ANATOMY

Candidates applying for this position must have a Ph.D. or equivalent qualification, with experience of teaching in a Medical College and of research relevant to medical sciences.

INSTRUCTOR, DEPARTMENT OF ANATOMY

Candidates applying for this position must have an M.B.B.S. with post-graduate qualifications and a minimum of two to three years teaching experience in a Medical College.

Salary and benefits will be offered commensurate with qualifications, experience and level of responsibility. Candidates intending to pursue a career in Pakistan will be preferred. Applications should include detailed résumé, bibliography and names of at least three referees familiar with recent work history. Reply to the Personnel Director, The Aga Khan University, P.O. Box 3500, Karachi-5, Pakistan.

CNS/Behavioral Pharmacologist

A PhD level position is available within the multidisciplinary preclinical CNS Diseases Research team of Du Pont Pharmaceuticals. This is an excellent opportunity for scientific and career development and collaboration with internationally known scientists. You will participate in research programs focusing on antipsychotics and drugs to enhance cognitive performance. To qualify, you should be an experimental psychologist or pharmacologist with experience in CNS/behavioral pharmacology and have strong skills in development of animal behavioral test procedures.

You'll find a highly stimulating scientific environment in a modern research facility at the Du Pont Company Experimental Station in Wilmington, Delaware. We offer a highly competitive compensation and liberal benefits including relocation. Interested candidates should send their resumes with salary requirements and references to: Dr. S.T. Toy, Employee Relations Department, Room X50473, Du Pont Company, Wilmington, DE 19898.

DU PONT

REG US PAT & TM OFF

U.S. Citizenship or Permanent Visa required. An Equal opportunity employer M/F/H/V

BECKMAN 50 GOLDEN PAST GOLDEN FUTURE

BUSINESS MANAGER

A Firm Foundation, A Fantastic Future!

We have an immediate opening in Southern California for a Manager of our Molecular Biology Consumables Business.

Key responsibilities are to strategize, position and manage on a full P/L basis an extensive line of Restriction Enzymes and related products worldwide.

The successful candidate must have comprehensive and first-hand knowledge of Restriction Enzyme markets through 3-5 years practical marketing related experience in this business. An MS or PhD. in Molecular Biology/Microbiology is desired. This is a unique position which will appeal to those who want to start up, manage and lead an independent business entity with a major life sciences company.

To be considered for this challenging and rewarding position, please submit your resume including salary history and requirements to: Professional Employment, SID. D-30-A, Beckman Instruments, Inc., 2500 Harbor Blvd., Fullerton, CA 92634-3100. An Affirmative Action Employer. Principals only.

Helping science and industry improve the quality of life.

BECKMAN

A SmithKline Beckman Company

POSITIONS OPEN

POSTDOCTORAL POSITION

A postdoctoral position available immediately to study the mechanisms underlying stimulus-secretion coupling. Studies focus on how ionic channels regulate the exocytotic release of peptide hormones, using both intact and isolated crustacean and pituitary nerve terminals. Experience with patch-clamping techniques required. Send curriculum vitae and names of three references to: **Dr. J. R. Lemos, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545.**

An Equal Opportunity/Affirmative Action Employer, M/F/H

A POSTDOCTORAL POSITION is available immediately for recent Ph.D. to participate in studies on enzyme specificity and regulation. Research methods in this laboratory include: kinetics, structural analysis, site-directed mutagenesis, stable isotopic probes of enzyme-substrate complexes, and NMR and EPR techniques. Candidates should have background in molecular enzymology and protein chemistry. Experience in synthesis and magnetic resonance techniques is highly desirable. Send résumé and three references to: **Dr. L. C. Kuo, Department of Chemistry, Boston University, 590 Commonwealth Avenue, Boston, MA 02215.**

POSTDOCTORAL POSITION available immediately to study tumor-associated growth factors/paracrine modulation. Ph.D. in cell biology or biochemistry required with preference given to applicants with experience in tissue culture and/or membrane receptor characterization. Minimum duration: 2 years. Send résumé and names of three references: **Philip J. Walther, M.D., Ph.D., Departments of Surgery and Pathology, Box 3314, Duke University School of Medicine, Durham, NC 27710.**

POSTDOCTORAL POSITION BROWN UNIVERSITY

Position available for individual interested in areas of protein-nucleic acid interactions, gene structure and regulation, protein structure-function, or molecular mechanisms of genetic recombination. Previous experience with, or desire to learn, protein and/or nucleic acid biochemistry, genetics, DNA cloning, or in vitro systems. Please send résumé with desired starting date and list of three references to: **Arthur Landy, Division of Biology and Medicine, Brown University, Providence, RI 02912.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION: The Dana-Farber Cancer Institute is seeking to fill one research position at the postdoctoral level to study the molecular regulation of gene expression in T lymphocytes. One ongoing area examines *cis-* and *trans*-acting genetic elements controlling differentiation-linked gene expression in lymphocytes. Another new research area involves definition of the genes responsible for T-cell function in collaboration with other laboratory investigators. A joint appointment will be held in an appropriate department of Harvard Medical School. Send curriculum vitae and names of two references to: **Dr. Harvey Cantor, DANA-FARBER CANCER INSTITUTE, 44 Binney Street, Boston, MA 02115, or telephone: 617-732-3413.**

BIOCHEMISTRY AND MOLECULAR BIOLOGY OF PLANT LIPIDS

POSTDOCTORAL POSITION to study regulation and coordinate control of plant fatty acid synthetase proteins. Ongoing projects include: (i) use of existing acyl carrier protein clones and isolation of additional clones as probes of the developmental and constitutive regulation of plant lipid synthesis; (ii) enzymology of lipid synthesis in leaves and seeds. Position available January 1987 in the Department of Botany and Plant Pathology, Michigan State University. Send résumé to: **John Ohlrogge, U.S. Department of Agriculture (USDA) Northern Regional Research Center, Peoria, IL 61604. Telephone: 309-685-4011.** *MSU is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION/HARVARD MEDICAL SCHOOL: A postdoctoral position is available immediately, involving studies on the cloning of genes for cellular proteins associated with granulocyte/monocyte differentiation and investigation of the control of expression of these genes during normal differentiation. Experience in molecular biological techniques is essential. Send curriculum vitae, summary of research experience, and names of three references to: **Dr. M. Amin Arnaout, The Children's Hospital, 300 Longwood Avenue, Boston, MA 02115.**

Harvard Medical School/The Children's Hospital is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in cell physiology available immediately for 2 years. NIH-funded project with competitive salary. Research on intracellular regulation of phosphate transport in the kidney using isolated membrane vesicles and cultured renal epithelial cells. Send curriculum vitae and names of two references to: **Dr. Stephen Kempson, Department of Physiology and Biophysics, Indiana University Medical School, 635 Barnhill Drive, Indianapolis, IN 46223.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS: BREAST CANCER RESEARCH

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

POSTDOCTORAL POSITIONS to study molecular biology of normal and abnormal growth control. (i) Characterization of structure and function of cDNA clones to mRNA's stimulated in quiescent cells by pure growth factors. (ii) Molecular biology of two-stage transformation. Isolation of transforming genes, and characterization of cellular interactions. Send résumé and three references to: **Harvey Herschman, Department of Biological Chemistry, University of California, Los Angeles (UCLA) School of Medicine, Los Angeles, CA 90024.**

POSTDOCTORAL POSITIONS IN REPRODUCTIVE BIOLOGY

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

POSTDOCTORAL RESEARCH ASSOCIATE. Available 1 September for recent Ph.D. interested in gene amplification associated with cellular resistance to chemotherapeutic agents. Studies involve analysis of DNA recombination, rearrangement, and amplification using molecular biology techniques. Position funded through the VA with competitive salary and benefits. Applicants must be U.S. citizen or permanent resident. Submit curriculum vitae, a summary of research experience, and names of three references to: **Dr. D. Parker Suttle, Division of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITIONS available, fall 1986, to study: (i) functional organization and regulation of recently isolated human **mdr** (P-glycoprotein) genes responsible for resistance to multiple chemotherapeutic drugs, including mutagenesis and expression in pro- and eukaryotic systems and development of new diagnostic and therapeutic approaches to chemotherapy-resistant tumors; (ii) cloning and characterization of genes overexpressed or amplified in metastatic tumors, utilizing both animal and human systems. Experience in molecular biology or biochemistry preferred. Competitive salary commensurate with experience and qualifications. Send curriculum vitae and names of references to: **Dr. Igor Roninson, Center for Genetics, University of Illinois, 808 South Wood Street, Chicago, IL 60612.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE: Opportunities exist to join a research effort to investigate how activated carcinogens alter gene expression. We are interested in the molecular change in the cell that takes place leading to altered gene expression. We will use cDNA probes, quick dot blot, and Northern and Western analysis with specific gene probes to investigate these induced changes in biological expression. Our specific interest is to examine how carcinogens and toxins alter the fate of transcriptionally active genes. The candidate(s) must hold a Ph.D. in an equivalent cellular or molecular biology discipline to investigate the above problem. The areas of carcinogenesis and drug modification of transcriptionally active DNA studies are presently ongoing in the laboratory. The salary and relocation expenses will be competitive and commensurate with background and experience and compatible with state and federal guidelines for Equal Opportunity Employment. The range for salaries is $15,000 to $25,000 per year. Send curriculum vitae with a brief résumé of interest and background and three letters of reference to: **Dr. George E. Milo, Director of Carcinogenesis, Comprehensive Cancer Center, Suite 302, 410 West 12 Avenue, The Ohio State University, Columbus, OH 43210.**

RESEARCH CHEMIST to prepare and isolate organic substances, conduct process research, and develop investigations for synthesizing new pharmaceutical chemicals and intermediates. Carry out complex synthetic reactions and make appropriate modifications. Analyze existing and new pathways to organic intermediates of medicinal values and final products. Use analytical and structural characterization equipment such as GLPC, HPLC, NMR, UV, VIS, IR spectrophotometer, small to medium-sized reactors, liquid-to-liquid counter current extractors, film evaporators, and electronic instruments. Utilization of PROPHET computer biomedical database tool is also required.

Ph.D. in pharmacy, medicinal chemistry, or related field. Must have research experience in one or more of the following areas: heterocyclic chemistry; imidazoles and pyrimidines; and steroid and carbohydrate chemistry. Must be able to perform all job functions and operate necessary equipment and use PROPHET computer database.

Salary: $3358.33 per month. Forty hours per week in modern, fully equipped laboratory located in Albany, Oregon.

Send résumés and references to:

Employment Division
Attention: Job Order Number 1997752
875 Union Street NE, Room 208
Salem, OR 97311

RESEARCH PHYSICIST, to perform high-resolution (transmission) electron-microscopic studies of treated metal alloys including "super alloys" and metal films and metal processing and interaction techniques for military and commercial applications. Ph.D. in physics required, plus either 1 year in position offered or 1 year performing high-resolution (transmission) electron microscopic studies. All applicants must have knowledge of convergent beam electron diffraction and of chemical analysis using scanning and transmission electron microscopy. Salary for approximately 40 hour week, $36,000 per year. Mail résumé and copy of ad to: **Department of Employment and Training, 1123 North Eutaw Street, Room 201-B, Baltimore, MD 21201.** Job order 6008365; job location: Washington, DC, area.

1986 - 1987
NATIONAL RESEARCH COUNCIL
DEPARTMENT OF THE ARMY

RESIDENT RESEARCH ASSOCIATESHIPS

Tenable At The

U.S. ARMY AEROMEDICAL RESEARCH LABORATORY

FORT RUCKER, ALABAMA

Resident Research Associateship Awards are offered on a competitive basis to postdoctoral and senior scientists and engineers of unusual ability in the fields of

Visual Science
Auditory Perception
Visual Pharmacology
Visual Neuroscience
Comparative Psychoacoustics
Biodynamics

Programs are open to U.S. citizens only. Initial awards are for one year with the possibility of renewal.

The National Research Council will accept applications postmarked on or before Aug. 15, 1986, or Jan. 15, 1987.

For complete program descriptions and application forms, write to

Dr. Kent A. Kimball
Director, Programs and Plans
U.S. ARMY AEROMEDICAL RESEARCH LABORATORY
P.O. Box 577, Fort Rucker, Alabama 36352-5000
OR
Associateship Programs - JH608-WR2A

National Research Council
2101 Constitution Avenue NW, Washington, D.C. 20418

HOFFMANN-LA ROCHE

Obesity Research

Senior Scientist

Hoffmann-LaRoche, an established leader in the pharmaceutical industry, has a career opportunity in obesity research.

The successful candidate will participate in a team effort to identify and characterize therapeutic agents for the treatment of obesity and direct research projects in the general area of neuroendocrine regulation of appetitive behavior and energy balance.

Qualifications: PhD in neuroscience, physiology, psychology or a related discipline and a minimum of 1 year of postdoctoral experience with 2 years preferred. Knowledge of appetitive behavior, neurobiology, endocrinology, metabolism, autonomic nervous system and obesity. Experience with in vivo and in vitro methodologies; brain stem and hypothalamic anatomy, chemistry and/or physiology; visceral afferent systems; studies with isolated organ, tissue or cell preparations; and receptor-ligand interactions. A good publication record is essential.

Roche offers a professional environment and an attractive compensation package. Please send resume and publication list to: Position AC, c/o Mrs. Eleanor M. Malone, Professional Employment & Staffing Specialist.

ROCHE®

An equal opportunity employer

HOFFMANN-LA ROCHE INC.
Nutley, NJ 07110

products that matter from people who care

LUDWIG INSTITUTE FOR CANCER RESEARCH
SYDNEY CANCER THERAPY BRANCH
UNIVERSITY OF SYDNEY

GROUP LEADER IN MOLECULAR BIOLOGY

Applications are invited for a senior scientific position in molecular genetics in the above Branch of the Ludwig Institute. The research activities of the Branch are presently undergoing extensive reorganisation under newly appointed Director of Basic Science and future research objectives include: (i) the identification and isolation from normal cells of differentiation-specific genes with antineoplastic activity using retrotransposon tagging and subtractive cDNA cloning techniques, (ii) development of retroviral vectors containing antioncogenes as an approach towards gene therapy, (iii) purification of antioncogene products and (iv) development of cancer-resistant strains of transgenic mice. Experience in retroviral vector construction and genomic/cDNA cloning would be an advantage; a good publication record in molecular genetics is essential. The appointment represents an exciting opportunity to play a major role in establishing the Branch at the forefront of laboratories applying molecular technology to the development of novel methods of cancer therapy. Remuneration will be at the level of a Senior Research Fellow in the University of Sydney (current salary scale A$36,541–42,588). The appointment of an initial period of 6 years, renewable in principle.

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

HUMAN GENETICS - The Human Genetics Department at Collaborative Research, Inc., has opportunities available for PhD, Masters and Bachelors degree candidates to join a research team dedicated to the application of modern molecular methods to the genetics of humans and the development of innovative medical diagnostics. Positions are available at all levels unless otherwise noted.

Molecular Genetics - Successful candidates will possess experience in genetic linkage mapping, standard recombinant DNA methodologies such as library construction and screening, or diagnosis of inherited traits using RFLPs. Background in human or phage genetics, vector construction or computer assisted data analysis is helpful.

Molecular Biology - Candidates are desired with strong molecular biology backgrounds and interest in improving existing technology or developing alternative methods. Candidates should have facility with recombinant DNA methodologies such as library construction, gene cloning, Southern blot technology, vector construction, subcloning, restriction mapping and DNA sequencing.

Cell Biology - Candidates should possess a degree in the Life Sciences with strong mammalian cell culture experience and interest in recombinant DNA technology. Demonstrated expertise in development and characterization of somatic cell hybrids, establishment of cell lines from primary cultures, and knowledge of cytogenetics of human cells required.

YEAST GENETICS - Our Yeast Genetics Department has a PhD opportunity available to assist in the planning and development of yeast strains secreting mammalian proteins. A degree in molecular genetics or biochemistry with experience in recombinant DNA techniques is necessary. Yeast molecular genetics experience is essential BS/MS opportunities are also available.

CRI, a leader in molecular biology, is located just 10 miles west of Boston. We provide a comprehensive salary and benefits program. For consideration, please submit resumes and the names of 3 references to the Human Resources Department. Candidates who have responded to our previous ad are still being considered, and need not apply.

COLLABORATIVE RESEARCH, INC.

128 Spring Street, Lexington MA 02173
an equal opportunity employer

POSITIONS OPEN

POSTDOCTORAL POSITION—Molecular biology of human parasites. Ph.D. or postdoctoral experience in molecular biology, with desire to apply this background to the study of helminths or protozoa. Send curriculum vitae to: **James H. McKerrow, M.D., Ph.D., Department of Pathology, Box 0506, University of California, San Francisco, CA 94143.** *UCSF is an Affirmative Action/Equal Opportunity Employer.*

SENIOR SCIENTIST

SEND RESUME TO:
Employment Security Department
ES Division, Attention AEC Number 45775
Olympia, WA 98504

JOB DESCRIPTION

Responsible for the initiation, design, direction, and execution of scientific research projects to produce human therapeutic agents in yeast through classical genetics and recombinant DNA techniques. Required to apply a wide variety of scientific principles and techniques to potential inventions and products, including gene regulation techniques adapted to production in yeast, specifically glycolytic and catabolite-repressible promoters, development of new expression vector systems for yeast, isolation and manipulation of yeast mutants adaptable to high levels of heterologous gene expression, protein secretion and manipulation of growth/culture conditions for yield optimization.

Must be able to coordinate interdepartmental activities necessary to support yeast molecular biology research efforts. Acts as advisor to top management in area of carbohydrate metabolism and glycolysis. Must be able to interact professionally with external scientists.

REQUIREMENTS:

Ph.D. in Molecular Biology, with specialization in the genetics and biochemistry of carbohydrate metabolism. B.S. in chemistry. Must have published articles in at least two refereed professional journals, 4 years of experience in the field. SALARY: $32,000 per year.

Equal Opportunity Employer

POSITIONS OPEN

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

SCIENTIST

Applicants are invited to submit, in confidence, résumés for a position at our Biotechnology Research Center (Meloy Laboratories, Inc.) in Rockville, Maryland. Position requires Ph.D. in chemistry or biochemistry with 1 year of experience required as a research assistant/protein chemistry. Duties and responsibilities will include synthesize peptides; purify epidermal, transforming, and insulin-like growth factors and receptors. Conduct bioassays of growth factors and microprotein sequencing using radioisotope methods; modulate gene expression at mRNA level. Must have prior experience in HPLC purification of peptides and proteins, radiolabeled protein sequencing, and purification of one of three growth factors listed. Résumés should be submitted to: **Personnel Department, Meloy Laboratories, Inc., 6715 Electronic Drive, Springfield, VA 22151, attention: 8603.** *Equal Opportunity Employer, M/F/H/V.*

SENIOR PHARMACEUTICAL RESEARCH SCIENTIST. Conduct research and development in the area of transdermal drug delivery systems, and the diffusional properties of skin. Prepare progress reports on findings. Requires detailed practical knowledge of design and function of transdermal drug delivery systems, skin as a membrane especially including in vitro methods in characterization of diffusional properties of skin, and skill in applying noninvasive techniques in skin and membrane research. Requires a strong background in basic pharmaceutics with strong skills in physical chemistry, advanced mathematics, and some computer analysis. Requires Ph.D. in pharmaceutics. No specific experience required. Monday through Friday, 8 a.m. to 5 p.m. $35,000 per annum. Apply at: **Job Service of Florida, 4205 Hollywood Boulevard, Hollywood, FL 33022.** Refer to Job Order Number FL5119548.

POSITIONS OPEN

RESEARCH ASSISTANT PROFESSOR. Position available for 4 years to investigate the role of viruses in cardiovascular disease. Candidates should have training in recombinant DNA techniques including cDNA cloning and DNA transfection. Competitive salary commensurate with experience. Send curriculum vitae and three letters of recommendation to: **Dr. Maurice Nachtigal, University of South Carolina, School of Medicine, Department of Pathology, Columbia, SC 29208.**

Affirmative Action/Equal Opportunity Employer.

CENTER FOR GENE STRUCTURE AND FUNCTION
HUNTER COLLEGE OF THE CITY UNIVERSITY OF NEW YORK
SEQUENCING AND SYNTHESIS FACILITY MANAGER

Hunter College of the City University of New York, in conjunction with the development of a Research Center for Gene Structure and Function, is searching for a manager for a facility which will house contemporary equipment for sequencing and synthesis of nucleic acids and proteins. The equipment will include a computerized gas phase peptide sequencer, an oligonucleotide synthesizer, a peptide synthesizer, and HPLC equipment. The candidate should present evidence of considerable experience with the operation and maintenance of such equipment. The manager will interact and consult with faculty and graduate students and be responsible for scheduling and the day-to-day operation of this facility. A Ph.D. or evidence of equivalent laboratory experience is required. The salary range is $28,000 to $36,000, depending on qualifications. Excellent fringe benefits. Send your curriculum vitae and the names of three references no later than 5 September 1986 to:

Thomas Schmidt-Glenewinkel, Ph.D.
Department of Biological Sciences
Hunter College of the City University of New York
695 Park Avenue
New York, NY 10021

Hunter College is an Equal Opportunity/Affirmative Action Employer. Minority candidates and women are particularly invited to apply.

The Howard Hughes Medical Institute
and
The National Institutes of Health
again announce
The Program for Research Opportunities for Medical Students
1987-88

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, Research Scholars Program, 9101 Old Georgetown Road, Bethesda, Maryland 20814.

Applications invited from students in all American Medical Schools.

Your request for the application information should be received by December 31, 1986.

Final deadline for return of all application materials is January 15th, 1987.

UNIVERSITY OF MISSOURI-COLUMBIA

TENURE-TRACK FACULTY POSITIONS IN MOLECULAR BIOLOGY

The University of Missouri-Columbia has established special multi-disciplinary programs in **MOLECULAR BIOLOGY** and **FOOD FOR THE 21st CENTURY** to enhance research and teaching in the biological sciences. This is a multi-year effort that will include new tenure track faculty positions in the **Food for the 21st Century** and **Molecular Biology Programs,** available any time after January, 1987. These positions will include highly competitive salaries and will be filled at levels commensurate with experience. Excellent start-up funds, facilities, and research support will also be made available. Applicants should include a curriculum vitae, a brief statement of research interests, and names of four references.

MOLECULAR BIOLOGY PROGRAM

DEVELOPMENTAL BIOLOGIST
DIVISION OF BIOLOGICAL SCIENCES

The successful candidate will be expected to develop a vigorous research program in an area of Molecular Developmental Biology utilizing modern techniques such as recombinant DNA technology. Desirable areas of research include, but are not limited to: gene regulation, pattern formation, neurobiology, embryology, or basic problems in developmental biology utilizing invertebrate genetic systems. Closing date: October 31, 1986 or until a suitable candidate has been identified.

Contact: **Dr. Louis Sherman, Director**
Division of Biological Sciences
105 Tucker Hall
University of Missouri-Columbia
Columbia, MO 65211

MOLECULAR BIOLOGIST
DEPT. OF MICROBIOLOGY

The successful candidate will be expected to conduct independent research which will complement and supplement existing programs in procaryotic and eucaryotic molecular genetics, pathogenics, immunobiology and molecular parasitology. Experience and interest in lower eukaryotes, human genetics, protein/nucleic and structure, and molecular immunology preferred. Closing date: September 30, 1986.

Contact: **Dr. Richard A. Finkelstein,**
Chairman
Department of Microbiology
School of Medicine
University of Missouri-Columbia
Columbia, MO 65211

PROTEIN CHEMIST
DEPT. OF BIOCHEMISTRY

The department seeks an individual with an independent research program in the general field of protein structure as it relates to biological function. Expertise should include the application of state-of-the-art instrumental and theoretical methods to macromolecular structures. It is hoped that this research program will constitute a resource that will combine protein sequence and conformational investigations and strengthen our ongoing programs in recombinant DNA technology. Closing date: October 31, 1986 or until a suitable candidate has been identified.

Contact: **Dr. Milton S. Feather, Chairman**
Dept. of Biochemistry
College of Agriculture & School of Medicine
322 Chemistry Building
University of Missouri-Columbia
Columbia, MO 65211

UNIVERSITY OF MISSOURI-COLUMBIA

FOOD FOR THE 21st CENTURY PROGRAM

PLANT MOLECULAR BIOLOGIST
DIVISION OF BIOLOGICAL SCIENCES

The successful candidate will be expected to develop a vigorous research program in an area of Plant Molecular Biology. Desirable areas of research include, but are not limited to: gene regulation, the molecular biology of bioenergetics or organelles such as chloroplasts and mitochondria, nuclear gene molecular genetics and molecular developmental biology. Closing date: October 31, 1986 or until a suitable candidate has been identified.

Contact: **Dr. Louis Sherman, Director**
Division of Biological Sciences
105 Tucker Hall
University of Missouri-Columbia
Columbia, MO 65211

MOLECULAR GENETICIST
DEPT. OF PLANT PATHOLOGY

The possible areas of research for this position include molecular analysis of plant pathogenic fungi, bacteria, or viruses, the diseases they cause, and the resistance of plants to pathogens. Closing date: October 31, 1986 or until a suitable candidate is identified.

Contact: **Dr. Steve Pueppke**
Dept. of Plant Pathology
108 Waters Hall
University of Missouri-Columbia
Columbia, MO 65211

MOLECULAR GENETICIST
DEPT. OF AGRONOMY

The successful candidate will be expected to cooperate with, and extend the achievements of an established group of cytogeneticists engaged in the transfer of genetic material to wheat from its relatives. The research should involve the use of molecular biological approaches, such as the use of DNA probes. Opportunities exist to do research in the molecular genetics of cereals other than wheat. Closing date: October 31, 1986 or until a suitable candidate has been identified.

Contact: **Dr. Bob Volk, Chairman**
Dept. of Agronomy
135 Mumford Hall
University of Missouri-Columbia
Columbia, MO 65211

IMMUNOBIOLOGY POSITIONS
COLLEGES OF VETERINARY MEDICINE AND AGRICULTURE

These Colleges will soon be recruiting for three positions in the Infectious Disease Cluster of the Food for the 21st Century Program. These positions will focus on respiratory and enteric diseases of cattle and swine and emphasize the molecular and cellular biology of infectious disease.

Contact: **Dr. B. D. Rosenquist or**
Dr. T. L. Veum
100A Connaway Hall
University of Missouri-Columbia
Columbia, MO 65211

REPRODUCTIVE MOLECULAR BIOLOGIST
DEPT. OF ANIMAL SCIENCES

The successful candidate will have the desire and ability to conduct fundamental studies directed in the long term towards the improvement of reproductive efficiency in livestock. Preference will be given to candidates with research experience in recombinant DNA technology. Closing date is October 31, 1986 or until a suitable candidate has been identified.

Contact: **Dr. R. M. Roberts**
158 Animal Sciences Research Center
University of Missouri-Columbia
Columbia, MO 65211

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

DEAN

SCIENCES and MATHEMATICS

HUNTER COLLEGE

THE CITY UNIVERSITY OF NEW YORK

Hunter College, the largest senior college in The City University of New York invites applications and nominations for the position of Dean of Sciences and Mathematics. The College has an enrollment of over 18,500 students in undergraduate and graduate programs, a full time faculty of over 800, and 4 major campus locations, all in midtown Manhattan. Hunter College is a co-educational, state-supported institution.

The Dean of Sciences and Mathematics reports to the Provost and is responsible for fostering research and for undergraduate and graduate programs in the Biological Sciences, Chemistry, Computer Science, Geology and Geography, Mathematical Sciences, and Physics and Astronomy. Faculty participate in CUNY doctoral programs and have research facilities on the Hunter campus.

The successful candidate must possess an earned doctorate, a strong record of scholarship and sponsored research, and be tenurable as a full professor in one of the divisional disciplines. Administrative experience and good communication and interpersonal skills are necessary. The position will be available Spring, 1987.

Salary and benefits are highly competitive and commensurate with experience and qualifications. Nominations and applications, along with resume and names of 5 references will be considered in confidence and should be sent to:

Sciences & Mathematics Search Committee
c/o HUNTER COLLEGE SENATE
Box 407, 695 Park Ave, New York, NY 10021

An Affirmative Action/Equal Opportunity Employer

STAFF SCIENTIST POSITIONS OPEN FOR NEW RESEARCH INSTITUTE

The BIOMEMBRANE INSTITUTE of Seattle, Washington, will begin research operations in early 1987. The new facility will focus on the molecular biology and immunology of cell surface membranes and glycoconjugates. The following positions are open:

1. Synthetic organic chemists interested or experienced in the synthesis of complex carbohydrates.

2. Molecular biologists interested in genetic engineering of immunoglobulins, pericellular molecules, and glycosyltransferases.

3. A developmental biologist and/or cell biologist interested in cell surface glycoconjugates.

Send curriculum vitae, publications list, and references to RECRUITMENT, P.O. Box 12344, Seattle, WA 98111. No telephone calls will be accepted.

Regulatory Toxicologist

Your Experience Counts At SRC

Do You Want . . .

- A challenging position within a strong team atmosphere?
- Opportunity for growth and advancement?
- Responsibility and authority?
- An attractive salary and benefit package?

Do You Have . . .

- 5+ years experience in regulatory toxicology/risk assessment? (Management experience a plus).
- An M.S. or Ph.D. degree in toxicology or a related field?
- Oral and written communications skills and good interpersonal relationship abilities?

You Should Look Into SRC . . .

The Center for Chemical Hazard Assessment at Syracuse Research Corporation has an exciting career move opportunity available to you. The skills and experience you possess in the regulatory toxicology field are needed within our independent multi-disciplinary research and development organization. We offer unlimited challenge and opportunity to the right individual at our modern facilities in beautiful Central New York.

If you would like your valuable experience to really count, send your resume to:

Dr. Patrick Durkin, Director
Center For Chemical Hazard Assessment
Syracuse Research Corporation
Merrill Lane
Syracuse, New York 13210

An Equal Opportunity Employer M/F/H

Syracuse Research Corporation

Merrill Lane **Syracuse, New York 13210** (315) 425-5100

MANAGER/SR. RESEARCH SCIENTIST/ ASSISTANT DIRECTOR

Bristol-Myers Company, a major world-wide corporation in the fields of consumer, pharmaceutical and nutritional products, has an immediate opening for a Senior Research Scientist/Manager/Assistant Director within the Cardiovascular Research department of its pharmaceutical research and development division. The successful candidate will be involved in autonomic and hemodynamic evaluation of cardiovascular active compounds and will be responsible for drug discovery research in various cardiovascular areas.

Qualifications include:

- Ph.D. in pharmacology or related field
- Five years experience in cardiovascular pharmacology
- Experience in autonomic pharmacology
- Experience working with whole animal models
- Industrial experience very helpful but not absolutely necessary
- Desire to work as part of a drug discovery team
- Ability to supervise people, communicate well, and solve problems

The position would report to the Director of Cardiovascular Pharmacology. Initially, the successful candidate will work at our Evansville, Indiana offices and will subsequently continue activities at the new Wallingford, Connecticut headquarters of our pharmaceutical research effort.

Bristol-Myers offers competitive salary compensation and a comprehensive benefits package including relocation assistance. Interested candidates should forward a resume including salary history to:

William K. Kromann
Manager, Professional Employment
Department 6K75

Bristol-Myers
U.S. Pharmaceutical and Nutritional Group
2404 Pennsylvania Avenue, Evansville, IN 47721

Equal Opportunity Employer M/F/H/V

Protein Chemist Enzymologist

The Medicinal Chemistry Department of Smith Kline and French Laboratories has an excellent career opportunity for a person experienced in protein purification, enzymology, and enzyme kinetics to work in a state-of-the-art research facility near the Philadelphia suburb of Valley Forge. The selected individual will assist in the design of molecules destined to interrupt enzymatic processes; isolate, purify and characterize enzymes; analyze the interactions between molecules and potential biological targets; and effectively communicate results.

The successful candidate will possess:

- M.S. in Biochemistry or Bio-Organic Chemistry or equivalent (B.S. with 3 to 5 years experience).
- Minimum 2 years experience in protein/enzyme purification and characterization.
- Experience in the development of specific enzymes assays, preferably including the use of low-levels of radio-isotopes.
- Experience in modern analytical methods such as HPLC, protein electrophoresis and chromatography.
- Working knowledge of biological reaction mechanisms and enzyme kinetics is preferred.

We offer an excellent compensation, benefits, and relocation package as well as the opportunity for personal and professional growth. Please forward your resume to George P. Kissell, Jr., Manager, Personnel Relations, 1594 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer m/f/h/v.

SK&F
A SmithKline Beckman Company

Non-Radioactive DNA Detection; Hybridization Technology

The GIBCO/BRL Division of Life Technologies, Inc. has two positions available for research into non-isotopic detection methods and novel approaches to hybridization technology.

- **Research Scientist.** This position requires Ph.D. with several years postdoctoral experience in molecular biology, nucleic acid chemistry, or gene cloning. Must have proven capability to perform independent and creative research.
- **Staff Biochemist.** B.S. and M.S. candidates; should have research experience in molecular biology or biotechnology.

We offer competitive salaries and a strong benefits package. If interested, please send resume in confidence, to:

Personnel Director
GIBCO/BRL Laboratories
Life Technologies, Inc.
P.O. Box 6009
Gaithersburg, MD 20877
(A suburb of Washington, D.C.)

LIFE TECHNOLOGIES, INC.

An equal opportunity employer, M/F/H/V

BUILDING A NEW LAB?

LET THE SCIENCE FREE PRODUCT INFORMATION SERVICE PUT YOU IN TOUCH WITH THE VENDORS WHOSE PRODUCTS YOU WILL NEED.

SIMPLY WRITE US A LETTER STATING THE SPECIFICS ABOUT YOUR PROPOSED LAB AND WE WILL DO THE REST.

WRITE TO:

SCIENCE MAGAZINE
NEW LAB SERVICE DEPT.
1515 BROADWAY
NEW YORK, N.Y. 10036

POSITIONS OPEN

SENIOR RESEARCH SCIENTIST. A new biotechnology firm seeks a senior scientist with an interdisciplinary background. This person is needed to coordinate an ongoing research program in the field of neuroimmunology and immunopsychiatry as it pertains to Alzheimer's disease and related neurological disorders. Applicants for this position must have: a Ph.D. in biochemistry and a minimum of 14 years of working experience; strong background in immunology, neurochemistry, and virology; considerable knowledge of immunodeficiency and neurological disorders; previous research and developmental experience; laboratory supervisory skills, extensive experience of immunologic techniques, tissue culture techniques, neurotransmitter enzyme assays, protein biochemistry techniques, and radiolabeled receptor binding assays. Proven record of productivity should be supported by good quality publications. Salary commensurate with experience and productivity. Please submit résumé and references to: **Dr. Alfred T. Sapse, Cortisol Medical Research, Inc., 1444 Biscayne Boulevard, Miami, FL 33132.**

SOIL MICROBE ECOLOGIST. Assistant scientist to investigate nonchemical strategies for reducing crop losses caused by soilborne pathogens, including bacteria, fungi, and nematodes. Ph.D. in a biological science. Applicant should have a strong background in plant pathology and botany, microbiology, soil science, quantitative methods, a good understanding of population dynamics of organisms competing in the wild, and must have a proven ability to measure and interpret biological phenomena in the field. Send curriculum vitae, undergraduate and graduate transcripts, and three letters of reference before 15 September 1986 to: **Dr. Donald E. Aylor, Chief, Department of Plant Pathology and Ecology, The Connecticut Agricultural Experiment Station, Box 1106, New Haven, CT 06504.** *An Equal Opportunity/Affirmative Action Employer.*

STAFF RADIATION THERAPIST

The University of Michigan Medical School, Department of Radiation Therapy, has open positions for radiation therapists. The newly constructed university hospital includes three linear accelerators, orthovoltage and superficial units, two Oldelft simulators, computerized treatment planning, and a complete brachytherapy system. Academic rank will depend on qualifications and experience. Interested persons should contact or send résumé to:

Allen S. Lichter, M.D.
University of Michigan Medical Center
Department of Radiation Therapy
1500 East Medical Center Drive
UH B2C490/0010
Ann Arbor, MI 48109
Telephone: 313-936-4301

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

VANDERBILT UNIVERSITY STAHLMAN PROFESSOR OF CANCER RESEARCH

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

Equal Opportunity/Affirmative Action Employer

VETERINARIAN. Licensed veterinarian with research interest and background in infectious diseases. Veterinary duties include the clinical care of a large chimpanzee colony under the direction of **Jorg Eichberg, D.V.M., Ph.D**. The major research areas include viral hepatitis and AIDS, therefore, candidates should have experience in virology and/or immunology. Please mail curriculum vitae and names of three references to: **Personnel Manager, Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284.**

An Equal Opportunity Employer, M/F.

POSITIONS OPEN

SYNCHROTRON BEAMLINE SUPERVISOR

The Howard Hughes Medical Institute (HHMI) plans to build a synchrotron facility for macromolecular crystallography at the National Synchrotron Light Source (NSLS) of Brookhaven National Laboratory. We seek a lead scientist to supervise this project. This individual will be responsible for designing and constructing two state-of-the-art beam lines and for supervising HHMI staff at NSLS. A sound understanding of x-ray optics and instrumentation is required and experience in crystallography and synchrotron research is highly desirable. Research activities will be encouraged.

The position is available immediately. Salary will be commensurate with experience. Applications including curriculum vitae and names of references should be sent by 20 September 1986 to: **Dr. Wayne A. Hendrickson, Howard Hughes Medical Institute, Department of Biochemistry and Molecular Biophysics, Columbia University, New York, NY 10032.**

AWARDS

SCHOLARLY EXCHANGES WITH CHINA

The Committee on Scholarly Communication with the People's Republic of China (CSCPRC) announces a National Program of Scholarly Exchanges with the PRC. This program offers support for visits to China by scholars in the sciences, engineering, social sciences, and humanities, as well as advanced graduate students in the social sciences and humanities. The Graduate and Research Programs support American scholarly interests through sponsorship of long-term study and research in China in the social sciences and humanities only. The Visiting Scholar Exchange Program provides short-term research and lecturing opportunities for American and Chinese scholars in all disciplines. Application is open to U.S. citizens and permanent residents.

The number of awards in each category is dependent upon the availability of funds. The expected deadline for all components of this National Program is 11 October 1986. For further information on any of these programs, write: **The CSCPRC, National Academy of Sciences, 2101 Constitution Avenue NW, Washington, DC 20418; telephone: 202-334-2718.**

RESEARCH IN RURAL CHINA: A FIVE-YEAR PROGRAM INVITATION FOR PROPOSALS

The Committee on Scholarly Communications with People's Republic of China (CSCPRC) announces a new opportunity for American scholars to study the process of change and development in the Chinese countryside. Proposals are invited for research projects involving periodic visits from 1987 to 1992 to field research sites in Shandong Province. The CSCPRC will consider proposals of various designs including: (i) a single researcher proposing a discrete topic; (ii) a research director either working with, or willing to incorporate, other individual projects as appropriate into the field site; or (iii) a multidisciplinary team of three to five scholars who wish to pursue an integrated research project.

In reviewing proposals, the CSCPRC will give preference to applicants who have had prior field research experience in China or in other countries with similar research conditions. For group projects, preference will be given to multidisciplinary proposals which include both a strong training component and a commitment of at least one member of the group to learn the local dialect.

Deadline for applications: 1 October 1986
Announcement of awardees: March/April 1987

For an application form and a detailed description of the field research site in Shandong, write the CSCPRC or **telephone: 202-334-2718.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP immediately available for studies on the molecular basis of differentiation in the mammary gland or skeletal muscle. Limited to those with recent doctorate; prefer background in biochemistry or molecular biology. Send curriculum vitae and letters of reference to: **Frank E. Stockdale, M.D., Ph.D., Stanford School of Medicine, M211, Stanford, CA 94305–5306.**

FELLOWSHIPS

FELLOWSHIPS

Postdoctoral fellowships are available in an NIH-funded training program in experimental hematology. Candidates should have a Ph.D. or M.D. degree and will be appointed for up to 3 years of training. U.S. citizenship or permanent residency required. Send curriculum vitae, a description of research interest, and a list of three references to:

Dr. Daniel A. Walz
Department of Physiology
Wayne State University
School of Medicine
Detroit, MI 48201

An Affirmative Action/Equal Opportunity Employer

Training Faculty are **D. Walz**, program director, physiology (structure and function of platelet proteins); **B. Edwards**, biochemistry (structure of hemostatic proteins analyzed by x-ray crystallography); **C. Jackson**, biochemistry (blood coagulation regulation and new methodology for clinical monitoring); **R. Johnson**, biochemistry (structure and genetics of erythrocyte membrane proteins); **J. Shore**, biochemistry (heparin reaction mechanism; contact activation of coagulation); **H. Mizukami**, biological science (studies of erythrocyte membrane proteins); **D. Njus**, biological science (biochemistry of secretory vesicles); **L. McCoy**, physiology (control mechanisms and regulation of plasma protein levels); **D. Yingst**, physiology (Ca-dependent protein regulation of the Na,K-ATPase); **J. Lusher**, pediatrics (pathogenesis, prevention and treatment of factor VIII inhibitors); **E. Mammen**, surgery (sepsis and disseminated intravascular coagulation).

U.S. Department of Energy (DOE), Office of Health and Environmental Research (OHER)—Alexander Hollaender Distinguished POSTDOCTORAL FELLOWSHIP PROGRAM. This new fellowship program provides research opportunities in the life, biomedical, and environmental sciences. Fellowships are tenable at various (DOE) laboratories and other research centers with OHER-sponsored programs. Stipend is in excess of $30,000. A doctoral degree received within last 2 years is required, as is U.S. citizenship or PRA status. Deadline is 20 January. For information and applications, contact: **Hollaender Postdoctoral Fellowships, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831–0117; telephone: 615-576-3190.**

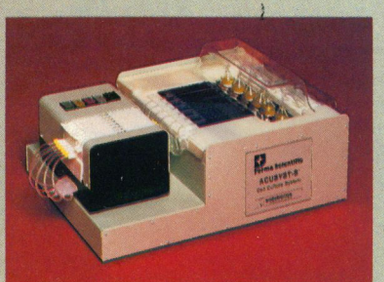
FELLOWSHIPS IN REPRODUCTIVE BIOLOGY. NIH Training Grant and individual investigator grants provide stipends for pre- and postdoctoral fellows interested in cellular, molecular, and neuroendocrine regulation of reproductive processes. Participating faculty from the Departments of Biochemistry and Cell Biology–Anatomy include: **K. L. Barker** (estrogen mechanisms in the uterus); **B. S. Chilton** (steroid actions in the cervix); **A. W. Coquelin** (neural regulation of gonadotropins); **C. W. Garner** (hormone action in the uterus); **J. C. Hutson** (testicular function); **W. W. Leavitt** (hormone receptors and progestin action); **G. H. Little** (programmed cell death in development); **R. L. Norman** (primate neuroendocrinology); **D. M. Stocco** (testicular steroid synthesis); **H. M. Weitlauf** (blastocyst-uterine interactions); and **S. M. Whelly** (estrogen mechanisms in the uterus). For additional information, contact the appropriate member above concerning your interest in a specific area or: **C. W. Garner, Chairman of the Selection Committee, Biochemistry Department, Texas Tech University Health Sciences Center (TTUHSC), Lubbock, TX 79430.** *TTUHSC is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIP to study CNS control of circulation available immediately through a National Heart, Lung and Blood Institute (NHLBI) training grant. Background in electrophysiological techniques including chronic single unit recording is desirable. Training faculty includes **Drs. Neil Schneiderman, Ray Winters, Philip McCabe, and Lynn Durel.** Open to U.S. citizens or permanent residents with a Ph.D., M.D. or equivalent degree. Stipend is based on NIH postdoctoral levels. Send curriculum vitae, summary of research experience, and letters of reference to: **Dr. Philip M. McCabe, Department of Psychology, Neurosciences Program, University of Miami, Coral Gables, FL 33124.** *The University of Miami is an Equal Opportunity Employer.*

Higher Cell Density.
Higher Product Concentration.
Lower Cost Per Gram.

Automated Cell Culture Systems From Forma/Endotronics

Now there's a proven way to produce secreted cell products from cultured mammalian cells or tissue, with less serum and less time and attention.



The Acusyst-S™ from Forma/Endotronics is compact and flexible. Experiment design is your choice. Results are precise and reproducibility is excellent.

And for perifusion cell culture, the Acusyst-M™ is a completely integrated hollow fiber system. Fully programmable, simple to operate, microprocessor controlled and inexpensive to use.

Cultureware sets are pre-sterilized to speed set-up. And all functions including gassing, feeding and harvesting are automatic.

Learn more about the beauty of automated cellular engineering.

Free Offer!
A handcrafted silk rose for your time and interest in the Acusyst™. Call toll-free for detailed literature, performance reports and information about customer seminars.

Call Us!

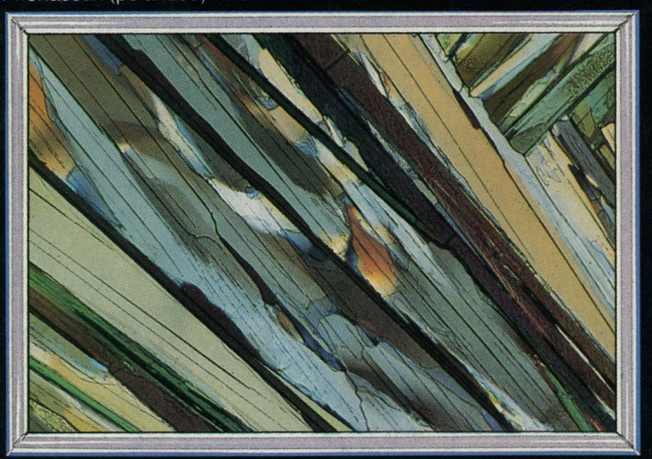
Forma Scientific
DIVISION OF MALLINCKRODT, INC.
BOX 649 MARIETTA, OH 45750 TELEX 29-8205

Toll-Free USA 800-848-3080 In Ohio 800-848-3080 In Canada 800-848-3080

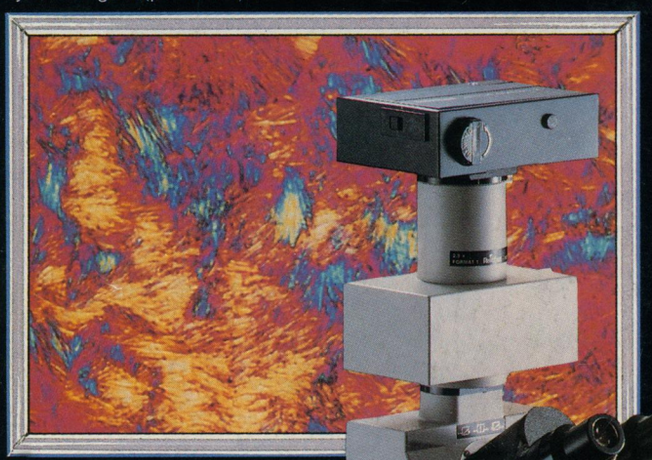
Circle No. 74 on Readers' Service Card

Introducing the Diastar.™ The All American Microscope with a Five Year Warranty.

Phenacetin (polarized) 12.5x



Synovium gout (polarized) 200x



Our new All American Photomicroscope comes with a purchase package that gives you more value for your money.

Like you we realize that Prospective Payment Legislation requires us to respond to your needs for more cost efficient management. With the introduction of our new Diastar Consultant—and its package of values—you won't have to worry about product service for the next five years.

- **Newly designed Plan Achromatic and Plan Fluorite state-of-the-art objectives** For greater optical performance
- **New automated Photostar camera system** With microprocessor control unit
- **5 Year Warranty** For better equipment amortization, fewer costly service problems
- **Free Used-Scope Refurbishing**
- **Free preventive maintenance kit**
- **More factory-owned service centers** Reduced downtime.
- **Loaner program**
- **Free technical consultant service** Expert photomicroscopy advice that's a toll-free phone call away
- **Free DRG monograph** Prospective Payment tips
- **Full line of improved accessories**
- **Fixed stage** For vibration-free viewing
- **Rotatable stage** For convenient operation
- **Reichert 140 year performance record**

Free evaluation

To provoke your interest in the Diastar, Reichert offers you a prompt, full evaluation of this microscope, at no cost.

Just contact your Reichert area sales representative, or call 800 - 828 - 1200, (N.Y. 800 - 462 - 1221). We'll arrange a demonstration in your laboratory. And don't forget your free posters. Just call toll-free or circle the reader service number.

Reichert

Reichert Scientific Instruments
Division of Warner-Lambert Technologies, Inc.
P.O. Box 123, Buffalo, New York 14240

Circle No. 6 on Readers' Service Card