

tion to liking for a comparison other and in one by Arkin and Baumgardner that discusses the phenomenon of self-handicapping. Unlike defensive attributions, which involve the distorted processing of extant information, self-handicapping consists in the "manufacture" of evidence aimed at avoiding damaging attributions to oneself in the future. Arkin and Baumgardner offer insights into the antecedent conditions, particularly maladaptive ones, of self-handicapping and its consequences.

Arkin and Baumgardner's chapter begins a section on applications of attribution theory. It is followed by a chapter on close relationships in which Fincham criticizes the relative lack of contact between basic attributional notions and the study of close relationships from the point of view of attribution theory. At least in part, the problem could stem from basic attributional models' having been oriented to process whereas attributional studies of close relationships have dwelt on attributional contents and, in so doing, have gone well beyond the global causal dimensions adumbrated in the early models. But beyond problems there is promise: close relationships do seem to involve intense attributional activity occasionally leading to attributional conflicts. Furthermore, formation or dissolution of a relationship may be accompanied by more attributional activity than routine maintenance of the relationship. Fincham's critical review is informative and useful.

The section concludes with a chapter by Anderson and Arnoult that extends Weiner's seminal work on attribution-mediated affect in achievement settings to problems of shyness, loneliness, and depression. Though the (conceptual and empirical) distinctions between these problems are occasionally less than crisp, the linking of attributional styles to affective difficulties is useful, as are the authors' methodological suggestions for ways of measuring spontaneously invoked causes and causal dimensions and of investigating attributional styles as causes of problems in living.

The volume concludes with an elegant analysis by Olson and Ross, who give a historical perspective to the topics covered and highlight the themes of the book. They make the point, a good one, that the attributional paradigm has managed to retain its vitality and distinctiveness and that in the mid-80's it offers an exciting alternative to the information-processing approach of studying social-cognitive phenomena.

ARIE W. KRUGLANSKI
Department of Psychology,
Tel-Aviv University,
Tel-Aviv, Israel

Some Other Books of Interest

Insect Locomotion. MICHAEL GEWECKE and GERNOT WENDLER, Eds. Parey, New York, 1985. viii, 254 pp., illus. Paper, \$32. From a congress, Hamburg, Aug. 1984.

This proceedings volume begins with a survey of the field of insect locomotion and ends with a paper on the control of insect locomotory systems by proprioceptive and exteroceptive inputs. The remaining papers are divided into sections on aerial locomotion (14 papers), terrestrial locomotion (ten papers), and aquatic locomotion (two papers). The papers range from a discussion of the role of adipokinetic hormone in maintaining the efficient transport of lipids to the flight muscles in locusts to a description of the effect of amputating a middle or a rear leg on motor activity in cockroach leg muscles. Three papers report the results of film analyses. In one, slow-motion film is used to analyze the flight maneuvers and behavior patterns of dragonflies in their natural surroundings; in another, film of hexapods walking on rough terrain is analyzed to determine the animals' tactics for finding footholds and their strategies for negotiating obstacles; in the third, film of stick insects walking along straight paths and around curves under different equilibrium conditions is analyzed to determine the relation between the observed temporal pattern of leg movements and the equilibrium conditions—L.H.

Bacteria in Their Natural Environments. MADILYN FLETCHER and GEORGE D. FLOODGATE, Eds. Academic Press, Orlando, FL, 1985. x, 197 pp., illus. \$45; paper, \$24.95. Special Publications of the Society for General Microbiology, vol. 16. From a symposium, Reading, England, Jan. 1984.

The six chapters in this volume deal with microbial adaptations to low-nutrient environments. The volume was prompted by the isolation and study of increasing numbers of very slow growing microbes that are apparently adapted to "starvation" conditions. The book begins with a discussion of the economics of bacterial growth in various nutrient regimes by A. L. Koch. The survival of bacteria under the stress of starvation and the role of storage compounds in survival are discussed by E. A. Dawes, who concludes that survival depends on the interplay of a variety of factors, which may differ in importance depending on the organism. The critical requirement is "the provision of energy to maintain the essential cellular machinery" that will allow growth to take place when a supply of nutrients is restored. The

survival of bacteria in soils and in the marine environment is dealt with by S. T. Williams and R. Y. Morita, respectively. P. Morgan and C. S. Dow survey the prosthecae and stalked bacteria ubiquitous to low-nutrient ecosystems and consider the adaptive advantages of these bacteria in such environments as well as the expression of similar adaptive features in bacteria that do not have specialized appendages. The book ends with a discussion of microbes in a nutrient-rich environment by R. H. Dainty that is intended to provide readers with a comparison of the problems encountered by microorganisms in different nutrient conditions.—L.H.

Nucleic Acid Hybridisation. A Practical Approach. B. D. HAMES and S. J. HIGGINS, Eds. IRL Press, McLean, VA, 1985. xvi, 246 pp., illus. \$40; paper, \$25. The Practical Approach Series.

Though the primary aim of this book is "to provide detailed practical protocols for the major hybridisation procedures," Hames and Higgins note that "rationale and practical advice are interwoven throughout" to facilitate the optimal use of hybridization. The book begins with a short introduction by Southern. It is followed by a discussion of hybridization strategy by Britten and Davidson that is "entirely practical." A considerably more detailed account of the quantitative analysis of solution hybridization and quantitative filter hybridization is contained in two chapters by Young and Anderson. A chapter by Arrand describes the preparation of nucleic acid probes. The use of hybridization in the analysis of recombinant DNA and RNA is described in two chapters by Mason and Williams. Oudet and Schatz discuss electron microscopic visualization of nucleic acid hybrids, and Pardue describes the equipment and procedures used in *in situ* hybridization. The volume contains four appendixes—on restriction enzymes (Roberts), nucleic acid size markers (Minter, Sealey, and Arrand), computer analysis of nucleic acid hybridization data (Young and Anderson), and suppliers of specialist items—and a subject index.—L.H.

Books Received

Arzneimittel- und Apothekenrecht der Deutschen Demokratischen Republik. Gesetzessammlung mit Kommentar. 13. Lieferung. Joachim Richter *et al.* Akademie-Verlag, Berlin, 1985, 393 pp., unbound. 35 M.

Aspects of Fluvial Sedimentation in the Lower Triassic Buntsandstein of Europe. Detlef Mader, Ed. Springer-Verlag, New York, 1985. viii, 626 pp., illus. Paper, \$58. Lecture Notes in Earth Sciences, vol. 4.

Atmospheric Chemistry and Physics of Air Pollution. John H. Seinfeld. Wiley-Interscience, New York, 1986. xxvi, 738 pp., illus. \$59.95.

(Continued on page 669)

Products & Materials

Statistics Software

STATISTIX is an interactive statistical analysis system for microcomputers. It offers user-specified arithmetic transformations, conditional transformations, missing value recognition, editing, and analysis by subsets. Data may be entered by keyboard or from text files. Analyses include variance or covariance, multiple regression, eigensystem analysis, most standard one- and two-sample parametric and nonparametric tests, goodness-of-fit tests, including log-linear models, probability values for nine distributions, summary statistics, histograms, and scatterplots. A manual is included. NH Analytical Software. Circle 532.

Automated Chemistry Analyzer

The TRAACS 800 is a computer-controlled device for continuous-flow analyses. Initiation, reagent sequencing, setting of baseline and gain, generation of real time, and corrected results are all automated. The random access sampler accommodates up to 120 sample cups. The four-channel version tests four chemistries simultaneously; the dual-channel version tests two chemistries at one time. Samples which exceed the range of analysis are automatically diluted and reanalyzed. Technicon Instruments. Circle 526.

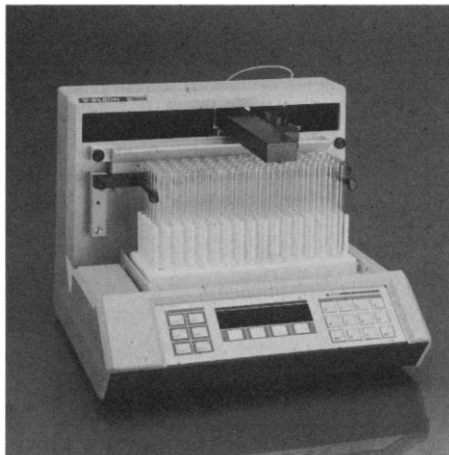
DNA Electrophoresis

Foto/Phoresis I occupies 2 square feet of table space and performs agarose gel electrophoresis to analyze nucleic acids and display results. Features include a 250-volt power supply, a gel tray designed for leakproof pouring, and a dedicated miniature gel transilluminator. Included is a hand-held instant format camera, agarose, ethidium bromide film, and a detailed protocol for use. Foto/Phoresis I offers a safety interlock and ultraviolet-blocking cover. The gel tray is automatically centered under the camera hood and DNA bands are reproduced 1 : 1 to provide an exact replica for reference. Fotodyne. Circle 535.

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.

Fraction Collector

Model FC203, microprocessor-controlled with collection in five modes, also offers time windows and online instructions. It offers in-operation editing of key parameters



for adaptation to the user's need. Adaptive-slope peak detection assures collection of pure compounds. The stationary rack system accommodates 14 different racks for various sized vessels from 96-well plates to 13 by 100 mm tubes. Removable pans and drain trough simplify cleanup. An optional three-way valve enables the user to divert eluent to the drain. Gilson Medical Electronics. Circle 529.

Plant Growth Chamber

A 934-liter chamber offers control of temperature, humidity, air circulation, and light. Model 317532 will accommodate plants up to 60 inches in height. Temperature may be controlled to within 0.1°C from 0° to 70°C and relative humidity to within 2 percent RH from 20 to 98 percent RH. Fluorescent lighting provides up to 1700 footcandles of light and two 24-hour timers permit programming of diurnal cycles of light and temperature. An optional microprocessor is available for full automation of chamber parameters. Removable, stainless steel shelves may be positioned at 19 levels inside the chamber. Hotpack. Circle 525.

Electrophoresis System

The 2050 Midget Electrophoresis System provides high-resolution separations in 0.5-mm polyacrylamide gels. The system includes multiple gel casting units, electrophoresis tank, electrophoretic transfer unit, laser densitometer, digital power supply, and accessories. Complete analysis, including cast-

ing gels, sample application, running, electrophoretic transfer, and densitometric scanning, requires less than 2 hours. Up to 14 gels may be cast at a time. Two gels containing 5, 10, or 15 samples each may be run in under 45 minutes. Thin gels may be rapidly stained and destained. LKB Instruments. Circle 531.

Pipettor

The Electrapette performs the functions of a graduated pipette. It is a 12-ml system that dispenses fluids in 100- μ l increments. The operator inputs the pipetting volumes and selects the flow rate. Aspirate/dispense indicator lights are found on either side for convenience. Accuracy exceeds 1 percent at full scale. The calibration function assures accuracy even when liquids of different specific gravities and temperatures are transferred. A starter kit for the Electrapette includes a rack, six calibration pipettes, 24 sterile filters, and four rubber pipette interfaces. Matrix Technologies. Circle 533.

NMR Simulator

NMR Simulator is software to enable the operator of a personal computer to experience the use of a nuclear magnetic resonance spectrometer without having one. With this software, the user of an IBM PC or Apple Macintosh may simulate the operation of a Varian EM-360A NMR spectrometer. The disk includes spectral data for 13 samples. Additional sample spectra may be purchased; they are grouped by areas of study. Samples may be presented as unknowns for analysis. With the sample loaded, the operator adjusts instrument settings and generates spectra. City Software Development. Circle 534.

Chemistry Workstation

The HP3363A Chemstation is based on the HP9000 Series 300 desk-top computer. Standard configuration offers 1-megabyte memory, software, color or monochrome monitor, and a printer, plotter, or disk. Software is available as an add-on to other analytical systems for automation and control of GC/MS, gas and liquid chromatography. Up to ten instruments, each with two detectors, may be controlled. Software automates operation; collection, storage, and analysis of data; and graphics. Auxiliary programs are available for plotting, batch processing, and more. Hewlett-Packard. Circle 528.

CONGRESS ON RESEARCH IN LYMPHOKINES AND OTHER CYTOKINES BASIC BIOLOGY AND STRATEGIES FOR CLINICAL APPLICATION

AUGUST 10-13, 1986

BOSTON MARRIOTT COPLEY PLACE, BOSTON

Organized by

Mary Ann Liebert, Inc. and Scherago Associates, Inc.

This meeting will focus mainly on interleukins, interferons, and cytotoxic cytokines, highlighting their potential importance in human disease. This meeting is timely because many of these agents are available in pure form as a result of advances in conventional protein purifications and molecular biologic techniques. An attempt will be made to integrate studies of the mechanism of actions of these agents and their application in the treatment of disease.

The symposium will take place Monday and Tuesday from 8:30 am – 6:00 pm and Wednesday until 12 noon. Discussion groups based on poster sessions will be held Monday and Tuesday evenings. Table top exhibits will also be presented.

CO-CHAIRMEN

Stanley Cohen, Professor of Pathology, University of Connecticut Health Center, Farmington

Jan T. Vilcek, Professor of Microbiology, New York University Medical Center, New York

TENTATIVE PROGRAM

SUNDAY EVENING, AUGUST 10

KEYNOTE ADDRESS: MECHANISMS OF CELL PROLIFERATION

Speaker: *Renato Baserga*

MONDAY, AUGUST 11

TUMOR NECROSIS FACTOR AND OTHER CYTOTOXIC MEDIATORS

Chairman: *P. Henkart*

Comparison of TNF and Lymphotoxin: *B.B. Aggarwal*

Cachetin: *B. Beutler*

Soluble Factors in Cell-Mediated Cytotoxicity: *P. Henkart*

Regulation of Hematopoietic Cells by Cytotoxins: *G. Trinchieri*

INTERFERONS AS REGULATORY AGENTS

Chairman: *M. Revel*

Beta₂ Interferon: *M. Revel*

Growth Factors as Interferon Inducers: *J. Vilcek*

Interferon Receptors: *S. Pestka*

Regulations of Oncogenes Expression by Interferons:

R.M. Friedman

TUESDAY, AUGUST 12

INTERLEUKIN 2 AND OTHER GROWTH FACTORS

Chairman: *T.A. Waldmann*

The Nature of IL 2 Receptor: *T.A. Waldmann*

IL 2 Ligand-Receptor Interactions: *K.A. Smith*

Intracellular Transduction Pathways in IL 2 Stimulation: *S. Cohen*

Protein Kinase C in IL 2 Action: *W.L. Farrar*

B Cell Growth Factor: *A.L. Maizel*

INTERLEUKIN 1, COLONY STIMULATING FACTORS

Chairman: *C.A. Dinarello*

Structural Studies of IL 1: *C.A. Dinarello*

The Role of IL 1 in the Central Nervous System:

L.B. Lachman

IL 1 and Rheumatoid Arthritis: *E. Amento*

Biologic Effects of Colony Stimulating Factors: *M. Moore*

WEDNESDAY MORNING, AUGUST 13

POTENTIAL CLINICAL APPLICATIONS

Chairman: *C.F. Nathan*

Interferon in Malaria: *V. Nussenzweig*

LAK and IL 2 in Cancer Therapy: *M.T. Lotze*

Adoptive Transfer of Interferon-Activated Macrophages:

H.C. Stevenson

Gamma Interferon in Leprosy and AIDS: *C.F. Nathan*

CONCLUDING REMARKS: *S. Cohen, J. Vilcek*

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(Continued from page 666)

Black Holes. An Annotated Bibliography, 1975–1983. Steven I. Danko. Scarecrow, Metuchen NJ, 1985. xiv, 282 pp. \$25.

Chemical Demonstrations. A Handbook for Teachers of Chemistry. Bassam Z. Shakhshari, Ed. Vol. 2. University of Wisconsin Press, Madison, 1985. xxxvi, 313 pp., illus. \$25.

Chemical Neurobiology. An Introduction to Neurobiology. H. F. Bradford. Freeman, New York, 1986. xvi, 507 pp., illus. \$36.95.

Digestive System. T. C. Jones, U. Mohr, and R. D. Hunt, Eds. Springer-Verlag, New York, 1985. xviii, 386 pp., illus. \$98. Monographs on Pathology of Laboratory Animals.

Discovery and Isolation of Microbial Products. M. S. Verrall. Published for the Society of Chemical Industry by Ellis Horwood, Chichester, England, 1985. 198 pp., illus. \$49.95. Ellis Horwood Series in Biological Chemistry and Biotechnology.

The Ecology of Rocky Coasts. Essays Presented to J. R. Lewis. P. G. Moore and R. Seed, Eds. Columbia University Press, New York, 1986. xiv, 467 pp., illus. \$45.

The Embryonic Development of *Drosophila melanogaster*. Jose A. Campos-Ortega and Volker Hartenstein. Springer-Verlag, New York, 1985. xii, 227 pp., illus. \$89.

The Growth of Minds and Cultures. A Unified Theory of the Structure of Human Experience. Willem H. Vanderburg. University of Toronto Press, Buffalo, 1985. xxvi, 334 pp. \$27.50.

Halley's Comet. Basil Blackwell, New York, 1985. x, 176 pp., illus. \$12.95.

Handbook of Intelligence. Theories, Measurements, and Applications. Benjamin B. Wolman, Ed. Wiley-Interscience, New York, 1985. xvi, 985 pp., \$64.95.

Handbook of Stochastic Methods for Physics, Chemistry and the Natural Sciences. C. W. Gardiner, 2nd ed. Springer-Verlag, New York, 1985. xx, 442 pp., illus. Paper, \$34.50. Springer Series in Synergetics, vol. 13.

Health of Women in the Americas. Pan American Health Organization Washington, DC, 1985. xvi, 157 pp., illus. Paper, \$8.

An Introduction to the Linear Theories and Methods of Electrostatic Waves in Plasmas. W. D. Jones, H. J. Doucet, and J. M. Buzzi, Plenum, New York, 1985. xvi, 312 pp., illus. \$45.

Large-Scale Mammalian Cell Culture. Joseph Feder and William R. Tolbert, Ed. Academic Press, New York, 1985. x, 159 pp., illus. \$25; paper, \$16.95. From a symposium, Philadelphia, Aug. 1984.

Lasers and Applications. A Volume Dedicated to All Those Who Invented the Laser and Made Possible Its Application in Science and Technology. I. Ursu *et al.*, Eds. Central Institute of Physics, Bucharest, 1985. iv, 375 pp., illus. Paper.

Microdomains in Polymer Solutions. Paul Dubin, Ed., Plenum, New York, 1985. xiv, 455 pp., illus. \$75. Polymer Science and Technology, vol. 30. From a symposium, Las Vegas, March 1982.

Nonparametric and Parametric Estimation of Wave Statistics and Spectra. Hidekatsu Yamazaki and John B. Herbich. Marine Information Service, Sea Grant College Program, Texas A & M University, College Station, 1985. x, 178 pp., illus. Paper, \$10. TAMU-SG-86-202. COE Report no. 279.

Nonsteroidal Antiinflammatory Drugs. Joseph G. Lombardino, Ed. Wiley-Interscience, New York, 1985. xxii, 442 pp., illus. \$99.50. Chemistry and Pharmacology of Drugs, vol. 5.

Proof of Therapeutical Effectiveness of Nootropic and Vasoactive Drugs. Advances in Clinical and Experimental Nicergoline Research. H. Heidrich, Ed. Springer-Verlag, New York, 1986. xii, 258 pp., illus. Paper, \$26.30. Translation of the German edition (Berlin, 1985).

Protein Secretion. A Critical Analysis of the Vesicle Model. Stephen S. Rothman. Wiley-Interscience, New York, 1985. xiv, 347 pp., illus. \$85.

Quantum Electrodynamics of Strong Fields. With an Introduction into Modern Relativistic Quantum Mechanics. W. Greiner, B. Müller, and J. Rafelski. Springer-Verlag, New York, 1985. xii, 594 pp., illus. \$43. Texts and Monographs in Physics.

Rarefied Gas Dynamics. O. M. Belotserkovskii *et al.*, Eds. Plenum, New York, 1985. 2 vols. xxvi, 1423 pp., illus. \$195. Based on a symposium, Novosibirsk, U.S.S.R., July 1982.

Tumors. L. Jeanmart, Ed. Springer-Verlag, New York, 1986. x, 118 pp., illus. \$49.50. Radiology of the Spine.

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ASSISTANT PROFESSOR. The Environmental Health Center at the University of Kansas Medical Center invites applications for a tenure-track position in the center. The individual selected will be expected to develop a strong research program, including collaboration with others in the center. This person will have an academic appointment in pharmacology, toxicology, and therapeutics; preventive medicine; biochemistry; pathology; physiology; microbiology or anatomy, dependent upon the interests of the individual and agreement with the selected department. Applicants should submit curriculum vitae and names of three references. Applications are desired before 1 June, but will be accepted until the position is filled. Send applications to: **Curtis D. Klaassen, Ph.D., Department of Pharmacology, Toxicology and Therapeutics, University of Kansas Medical Center (KUMC), Kansas City, Kansas 66103.**

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ASSISTANT/ASSOCIATE PROFESSOR-ANIMAL CYTOGENETICS. Tenure-track position for an animal cytogeneticist with knowledge of quantitative genetics. Should have experience and demonstrated interest in the cytogenetics of domestic farm animals and be able to apply one or more of the following techniques to the study of animal cytogenetics: hybridoma production, monoclonal antibodies, recombinant DNA, cell and tissue culture. Postdoctoral experience is highly desirable. The successful applicant will participate in a developing departmental biotechnology program by establishing a strong research program, funded in part by external grants. Teaching responsibilities will include graduate and undergraduate level courses in cytogenetics and quantitative genetics, plus participation in the teaching of modular courses in research techniques. Interested applicants should submit, by 30 May 1986, curriculum vitae and four references to: **Dr. Donald L. Black, Head, Department of Veterinary and Animal Sciences, 313 Paige Laboratory, University of Massachusetts, Amherst, MA 01003.** *An Affirmative Action/Equal Opportunity Employer.*

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ASSISTANT PROFESSOR—BIOCHEMISTRY OF INSECT-PLANT INTERACTIONS. Twelve-month, tenure-track appointment (100 percent research) available 1 January 1987, to develop a research program to identify biochemical mechanisms by which crop plants resist colonization and damage by pest insects. Ph.D. in entomology, biochemistry, plant science, or related area required; prior research experience in insect-plant interactions preferred. Salary commensurate with qualifications and experience. Send curriculum vitae, reprints of publications, transcripts, and names of five references to: **D. M. Soderlund, Chairman, Insect-Plant Interactions Search Committee, Department of Entomology, New York State Agriculture Experiment Station, Cornell University, Geneva, NY 14456.** Applications accepted until 1 August 1986, or until a suitable candidate is found. *Cornell University is an Equal Opportunity/Affirmative Action Employer.*

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

**Dr. Brian F. Hoffman
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College of Physicians and Surgeons
Columbia University
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ASSISTANT PROFESSOR OF BIOCHEMISTRY. A tenure-track faculty position is available in a research-oriented Department of Biochemistry with teaching responsibilities for medical and graduate students. The successful candidate must have completed at least 2 years of postdoctoral training in the fields of cell and molecular biology, including recombinant DNA technology. It is expected that the candidate will establish an independently funded, active research program using these approaches. Applicants may send curriculum vitae, summary of research plans, and three names for reference letters to: **Dr. Michael P. Czech, Regulatory Biochemistry Search Committee, Department of Biochemistry, University of Massachusetts Medical Center, Worcester, MA 01605.**

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ASSISTANT PROFESSOR (PHYSICIAN) IN HUMAN NUTRITION

The Department of Nutritional Sciences, University of California, Berkeley, is seeking an assistant professor for a tenure-track position in human nutrition. The individual must hold an M.D. degree and be either licensed or eligible for licensure for the practice of medicine in the State of California. Specialization would be desirable in public health, metabolic disease, gastroenterology, or endocrinology. The individual appointed will be expected to devote about half-time to teaching and half-time to nutritional research. Teaching assignments include normal and therapeutic nutrition and dietetics and related subjects. Research should be in the general field of human nutrition; much of the research will be carried out utilizing the facilities of the Koret Center for Human Nutrition at the San Francisco General Hospital. Graduate students working with the appointee will have program options in nutrition (M.S., Ph.D.), comparative biochemistry (Ph.D.) and combined programs with public health and health and medical sciences.

Interested persons should submit curriculum vitae, a description of their research interests, publication list, and a list of five individuals as references to: **Chairman, Search Committee for an Assistant Professor (Physician) in Human Nutrition, Department of Nutritional Sciences, University of California, Berkeley, CA 94720.** The deadline for submitting application materials is 16 May 1986, or until position is filled. The position is available 1 July 1986, or soon thereafter.

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

ASSISTANT PROFESSOR MOLECULAR BIOLOGY

The Department of Biology is seeking applicants for a tenure-track position effective 1 September 1986. Candidates must have a Ph.D. in a biological science, at least 1 year of postdoctoral experience (2 preferred) in molecular biology, and be able to teach in the introductory biology program. Duties include developing a vigorous research program to include M.S. and Ph.D. students and seeking external sources of funding.

Candidates must submit a recent curriculum vitae, reprints, and arrange to have three letters of recommendation sent by 5 June 1986 to: **E. L. Jarroll, Chair of the Search Committee, Department of Biology, CLEVELAND STATE UNIVERSITY, 1983 East 24 Street, Cleveland, Ohio 44115.** *An Equal Opportunity Employer, M/F/H.*

BIOCHEMIST

Candidate must have Ph.D. or equivalent in biology. Will work in laboratory creating antibodies to prostate cancer cells; perform electron microscopy and immunological studies; develop assays for demonstrating the therapeutic effects of antibodies in tumor cells; be involved with tissue culturing, gel electrophoresis, protein purification, and biochemical analysis of proteins. Minimum 3 years of research experience in immunological techniques including light microscopy, electron microscopy, tissue culture, and biochemistry is required. 37.5 hours per week, 8:45 a.m. to 5 p.m. Annual salary is \$19,950. Qualified applicants should send curriculum vitae, reprints, and the names of three professional references and other relevant material to: **The Philadelphia Job Bank, 444 North 3 Street, Philadelphia, PA 19123.** Refer to Order Number 3907619. *Equal Opportunity Employer.*

POSITIONS OPEN

Applications are currently being accepted for a position at the level of **ASSOCIATE PROFESSOR** or **PROFESSOR** in the **Department of Experimental Therapeutics and Grace Cancer Drug Center at Roswell Park Memorial Institute.** Candidates will be expected to establish and lead a research program focused on the identification of new target sites for chemotherapeutic intervention based on recent developments in the molecular biology of tumor cells. Research and demonstrated leadership experience in biochemical pharmacology and/or molecular biology with a strong interest in cancer therapy is required. Inquiries should be addressed to: **Dr. E. Mihich, Roswell Park Memorial Institute, Buffalo, NY 14263.** *Equal Opportunity Employer.*

ASSOCIATE VICE PROVOST FOR RESEARCH UNIVERSITY OF TENNESSEE, KNOXVILLE (UTK)

The associate vice provost will provide major assistance to the vice provost for research in day to day operations of the UTK Office of Research Administration; developing research policies; and promoting closer relationships between UTK and business/industry.

In addition to university experience and familiarity with industrial research, evidence of abilities in academic planning; patents, copyrights, and commercialization of intellectual properties; development and maintenance of computer-based information systems; and proposal development for grants and contracts from government and industry are desired. **SALARY:** Competitive, dependent on experience, and qualifications.

Curriculum vitae and at least three references by 31 May 1986 to:

**Hardy Liston, Vice Provost
The University of Tennessee
509 Andy Holt Tower
Knoxville, TN 37996-0154**

An Affirmative Action/Equal Opportunity Employer

BIOCHEMISTS

HABER, INC., committed to advanced technologies, is expanding. **Protein chemists/biochemists:** The charter is to develop protocols for the separation and purification of peptides and proteins using a proprietary electrochemical process—WMP. We are seeking extremely gifted scientists with relevant academic and experimental credentials. **HABER, INC.,** is a public company with laboratories located in the Lakeland area of northern New Jersey. The rural setting is convenient to Manhattan and major residential communities. If you can contribute to our exciting and dynamic organization, send résumé to: **Personnel, Department B, HABER, INC., Towaco, NJ 07082.** *An Equal Opportunity Employer.*

BIOCHEMISTRY—FACULTY POSITION

Assistant professor or instructor opening in a congenial, interdisciplinary undergraduate state college in southern New Jersey is available for an individual with spark who is committed to teaching and who has an instrumental orientation to biochemistry. The appointment is for September, 1986. Ph.D. preferred. Salary range of \$18,611 to \$26,016 may be higher, depending on increases in the New Jersey State Compensation Plan. Rank and salary depend upon qualifications and experience. Screening begins 1 May. Send a résumé and have three letters of reference sent to: **Dr. Donald Plank, Chairman, Faculty of Natural Sciences and Mathematics, Stockton State College, Pomona, New Jersey 08240.**

Stockton State College is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

BIOLOGY: ASSISTANT/ASSOCIATE PROFESSOR, tenure-track, beginning August, 1986. A Ph.D. with postdoctoral training and publications required. Applicants must be strongly committed to excellence in undergraduate teaching and research. The successful candidate will be expected to teach comparative anatomy, histology, anatomy and physiology, and general biology and also direct research of advanced undergraduates and master's candidates. Salary commensurate with experience. Send curriculum vitae, official transcripts, recent publications, and three letters of recommendation to: **Dr. J. M. Upadhyay, Chairman, Department of Biological Sciences, P.O. Box 104, Loyola University, New Orleans, LA 70118.** Application deadline 4 June 1986. *An Equal Opportunity/Affirmative Action Institution.*

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES UNIVERSITY OF CALIFORNIA, DAVIS

Inquiries are invited from qualified applicants for faculty positions (tenure track) available in these areas:

ASSISTANT PROFESSOR AND ASSISTANT NEMATOLOGIST, molecular biology and molecular genetics related to nematodes and to nematode/plant interactions. Apply to H. K. Kaya, Division of Nematology, by June 1, 1986. Position available July 1, 1986.

ASSISTANT PROFESSOR/ASSISTANT POMOLOGIST, research in genetics of deciduous tree fruit species, particularly *Prunus* spp., will be combined with cultivar and/or rootstock development. Apply to S. Weinbaum, Department of Pomology, by October 1, 1986. Position available January 1, 1987.

These positions are to be filled at the Assistant Professor 11-month salary level (unless other rank is indicated above). The positions have responsibilities for teaching, advising and research (in the Agricultural Experiment Station). Candidates should have a Ph.D. in an appropriate field and teaching and research experience. Applicants should submit resume, transcripts (if within five years of graduation), statement of research and teaching experience, list and reprints of publications, and the names and addresses of at least three persons familiar with the applicant's qualifications, to individual and department as noted for position (Department Name), University of California, Davis, CA 95616. Please indicate the position in which you are interested. The completed application must be received by date indicated for each position. In accordance with applicable State and Federal laws and University policy, the University of California does not discriminate in any of its policies, procedures, or practices on the basis of race, color, national origin, religion, sex, sexual orientation, handicap, age, veterans status, medical condition (as defined in Section 12926 of the California Government Code), ancestry, or marital status; nor does the University discriminate on the basis of citizenship, within the limits imposed by law or University policy. In conformance with applicable law and University policy, the University of California is an affirmative action/equal opportunity employer. Inquiries regarding the University's equal opportunity policies may be directed to the Vice Chancellor of Academic Affairs—Affirmative Action Officer and Title IX Coordinator, 521 Mrak Hall, (916) 752-2070. Speech and hearing impaired persons may dial (916) 752-7320 (TDD).

REPRODUCTIVE TOXICOLOGIST

The Toxicology Research and Testing Program of the National Institute of Environmental Health Sciences, Research Triangle Park, NC, has a permanent position for a Reproductive Toxicologist with a salary range of \$37,599 to \$57,759.

The successful candidate will be expected to:

1. Help administer a program in reproductive and developmental toxicology through in-house studies as well as through contracts.
2. Design studies and assist the Program in the design of studies to evaluate the toxic potential of chemicals in small laboratory animals. Chemicals are selected on the basis of their public and industrial health significance.
3. Develop and validate procedures for studying the reproductive toxicity of chemicals.

Candidates are required to have the following:

1. Ph.D degree or its equivalent in toxicology, pharmacology, physiology, or other allied subjects where training was focused on in-vivo mammalian toxicology.
2. Three or more years of postdoctoral research experience in reproductive toxicology.
3. Knowledge of mammalian reproduction and reproductive physiology and the general methods and principles for evaluating reproductive toxicity.
4. Ability to communicate effectively both orally and in writing.
5. Relevant publications in scientific journals.

U.S. citizenship is required; applicants must be found to be eligible on a Civil Service Register.

A curriculum vitae and names of three persons we can contact for references should be sent to:

**NIEHS Personnel Office,
P.O. Box 12233,
Research Triangle Park, NC 27709
Attention: Mr. Johnny McLean (MD 1-01)**

Further information can be obtained from Mr. McLean by calling 919 541-3316. Applications must be received no later than June 2, 1986.

THE NIEHS IS AN EQUAL OPPORTUNITY EMPLOYER

MOLECULAR BIOLOGISTS

The Division of Biological and Medical Research at Argonne National Laboratory has a staff position and 2 postdoctoral appointments available. The Laboratory is operated by the University of Chicago.

Research will be focused on the mode of action of radiation or chemicals in mammalian cells with special emphasis on alterations in gene expression induced by these agents. Primary areas of interest are molecular oncogenesis, mutagenesis, and cell differentiation.

Applicants should have a Ph.D. in molecular biology, genetics, biochemistry, or a related field, and training and experience in molecular and cell biology. Postdoctoral applicants must have received their degrees within 3 years of appointment.

Salary will be competitive, commensurate with background and experience. Please send curriculum vitae with names of 3 references to:



**Ms. Rosalie L. Bottino
Box J-BIM-16287-55
ARGONNE NATIONAL
LABORATORY
9700 South Cass Avenue
Argonne, IL 60439**

Argonne National Laboratory is an equal opportunity/affirmative action employer

TOXICOLOGISTS

Life Systems, Inc. is a high-tech R&D company at the leading edge of interdisciplinary environmental health studies, and has excellent career opportunities for highly motivated scientists. The following positions are available to qualified candidates with experience in one or both of the following areas:

- Toxicology – focus on Pesticides and Other Organics
- Human Metabolism of Environmental Chemicals

The successful applicants will possess a Ph.D. with 8–11 years of relevant experience. Risk assessment experience a plus. The positions will require you to plan and perform non-laboratory environmental health effects evaluations, prepare criteria documents and risk assessments, and participate in planning environmental health projects. You will be expected to contribute technical expertise and insight across a broad spectrum of company activities.

These positions offer good salary + baseline benefits + flexible (your option) benefits + challenging assignments + respect for good work + good location. Send resume and salary history to Manager, Recruitment at:

ICAIR

Life Systems, Inc.

24755 Highpoint Road
Beachwood, OH 44122

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POSITIONS OPEN

BIOLOGICAL OCEANOGRAPHER: Department of Oceanography seeks zooplankton ecologist, preferably with specialization in microzooplankton. Appointment will be made at assistant professor level (9 months state funding, tenure-track) and may be taken up between August and December 1986. Applicants send curriculum vitae, names, and addresses of three referees to: **Dr. Richard Iverson, Department of Oceanography, Florida State University, Tallahassee, FL 32306**, before 1 June 1986.



THE UNIVERSITY OF MANITOBA FACULTY OF MEDICINE

CARDIOVASCULAR MOLECULAR BIOLOGISTS AND ELECTROPHYSIOLOGISTS. The Department of Physiology, University of Manitoba, invites applications for two positions from young investigators in the field of experimental cardiology to be appointed at the level of assistant professor. The successful candidates will be expected to compete for local and national scholarship awards and develop their independent research programs, as well as collaborate with other members of the department. Applicants with backgrounds in molecular biology and electrophysiology are encouraged to submit their curriculum vitae, an outline of their research interests, as well as to arrange for three letters of reference to be sent to **Dr. Henry G. Friesen, Professor and Head, Department of Physiology, Faculty of Medicine, University of Manitoba, Winnipeg, Manitoba, Canada R3E 0W3**. Deadline for application is 1 June 1986. *The University of Manitoba is an Equal Opportunity/Affirmative Employer, but in accordance with Canadian immigration, priority will be given to Canadian citizens and permanent residents of Canada.*

CEREBROVASCULAR

Applications are invited for a position in neuroscience at the University of Manitoba, Faculty of Medicine. Preference will be given to individuals with experience and a continuing interest in cerebral blood flow and metabolism, with some expertise in nuclear magnetic resonance. The successful candidate will be expected to develop an independent laboratory in an environment with ample opportunity to collaborate with other researchers in clinical, as well as basic science, departments. Candidates should have a Ph.D. or equivalent, have 2 or more years of postdoctoral training, and be eligible to compete for local and national scholarship awards. Send curriculum vitae, outline of future research plans, and arrange for three letters of reference to be forwarded to: **Dr. H. G. Friesen, Professor and Head, Department of Physiology, University of Manitoba, Winnipeg, Manitoba, Canada R3E 0W3**. Deadline for receipt of applications is 1 July 1986. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.*

MAYO CHAIR OF PUBLIC HEALTH

The University of Minnesota invites applications for the endowed Mayo chair of public health as professor, environmental health. Applicants should be internationally renowned with a strong research record; an interest in teaching; a commitment to public health; and an outstanding record of scholarly achievement in one or more of the following areas: Occupational/environmental epidemiology; environmental health chemistry; environmental/occupational toxicology; industrial hygiene. Minimum qualifications: earned doctorate and 10 years of research experience. Send applications by 31 August 1986 to: **Jack S. Mandel, Ph.D., School of Public Health, Box 197 Mayo, 420 Delaware Street, S.E., Minneapolis, MN 55455**. *The University of Minnesota is an Equal Opportunity Employer and Educator and specifically invites the applications of women and minorities.*

CYTOGENETICIST: Wanted, Board-certified/Board-eligible in cytogenetics. Interest/experience in mammalian embryo culture and infertility testing helpful, but motivation and eagerness to learn more important. Excellent remuneration package and opportunity to grow with us. Forward curriculum vitae to:

**Charles P. Garrison, M.D.
Genetics and Laboratory Medicine, P.C.
3300 Buckeye Road, Suite 178
Atlanta, GA 30341**

POSITIONS OPEN

CHAIRMAN DEPARTMENT OF MICROBIOLOGY LOYOLA UNIVERSITY— STRITCH SCHOOL OF MEDICINE

The Stritch School of Medicine, Loyola University of Chicago, invites applications and nominations for the position of chairman of the Department of Microbiology. The candidate should possess a Ph.D. or equivalent degree in microbiology, have an established and active research program, have a commitment to medical and graduate education, and have had previous administrative experience. Currently, the faculty of the department are pursuing research in: molecular biology; cellular immunology; prokaryotic and eukaryotic genetics; virology; immunochemistry; microbial physiology; pathogenic mechanisms; and mycology. Applicants should send their curriculum vitae and the names of three references by 15 July 1986 to: **Dr. John X. Thomas, Jr., Chairman, Search Committee for Microbiology, Stritch School of Medicine, Loyola University of Chicago, 2160 South First Avenue, Maywood, IL 60153**. *Loyola University of Chicago, Stritch School of Medicine is an Affirmative Action/Equal Opportunity Employer.*

CHIEF OF HUMAN GENETICS

The Department of Pediatrics, University of Pennsylvania, is seeking applicants as a tenured professor/associate professor to lead the Division of Human Genetics at Children's Hospital. Individual must be a leader in molecular genetics who is equally competent to run a clinical genetics unit. M.D. with specialty training in pediatrics or internal medicine required. Send curriculum vitae and names of three referees to: **Dr. Charles Scher, Chairman, Search Committee, Children's Hospital of Philadelphia, 34th and Civic Center Boulevard, Philadelphia, PA 19104**. *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.*

CLINICAL RESEARCH

CLINICAL RESEARCH ASSOCIATE: General nursing or nuclear medicine technologist. Candidate will use researched information to design clinical trial plans for manufacturer of radiopharmaceuticals. Ideal candidate will have management background (project management preferred), excellent communication skills and proficiency in nuclear medicine/general nursing. Minimum education requirement is a B.S. in physical or biological sciences with 4 to 6 years of experience in job related field. Please send résumé to Human Resources.

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DIRECTOR, INSTITUTE OF MOLECULAR BIOLOGY Temple University Health Sciences Center

Temple University invites applications and nominations for a molecular biologist to head its newly established Institute of Molecular Biology. The institute is part of a broader commitment by Temple University to expand its resources toward the development of molecular biology throughout the institution. The institute will serve as a focus for research and teaching programs in molecular and cellular biology and molecular genetics. The director, who will have a faculty appointment in the School of Medicine, is expected to develop and supervise the teaching and research programs of the institute and to maintain a vigorous individual research program. The institute will be located at the Health Sciences Center, and it is expected to have extensive interactions with the Departments of Biology and Chemistry (College of Arts and Sciences), as well as with other basic science and clinical departments of the medical school. Candidates should have a Ph.D. or M.D. degree (or equivalent). Application deadline is 30 September 1986. Send curriculum vitae, statement of research interests, and names of at least four references to: **Renato Baserga, M.D., Search Committee for the Head of the Institute of Molecular Biology, Temple University School of Medicine, Philadelphia, PA 19140**. Telephone: 215-221-3257.

An Affirmative Action/Equal Opportunity Institution

POSITIONS OPEN

UNIVERSITY OF OXFORD Departmental Demonstratorship for a Neurobiologist or Neuroendocrinologist

Applications are invited for a demonstratorship in the Department of Anatomy which will become available on 1 October 1986. The appointment will be for 3 years in the first instance, renewable for a further 3 years. Applicants should have a Ph.D. or a medical qualification. The person appointed will be expected to carry out an active program of research within one year of the department's fields of interest and to collaborate in teaching at both elementary and Honours level.

The salary scale (at present £7055 to £9880 per annum) will depend on age and experience. Applications, which should include curriculum vitae, a short statement of research interests, and the names of two referees should be sent before 30 May 1986 to: **Dr. Lee's Professor of Anatomy, R W Guillery FRS, Department of Human Anatomy, South Parks Road, Oxford, England OX1 3QX**, from whom further details may be obtained.

DIRECTOR, CLINICAL ATHEROSCLEROSIS RESEARCH PROGRAM

We are seeking candidates for the position of director of Clinical Atherosclerosis Research Division who have experience in either basic research, epidemiology, and/or lipid metabolism in addition to having a background and experience in clinical cardiovascular disease. Candidates must hold an M.D. degree and be recognized authorities in the field with a track record of contributions and funding. The director will participate in a multidisciplinary approach to the early detection and prevention of atherosclerosis vascular changes. Salary commensurate with qualifications. Please send a statement of research interests and a complete curriculum vitae to **Box 60, SCIENCE**.

DIRECTOR, GREAT LAKES ENVIRONMENTAL RESEARCH LABORATORY (GLERL). The U.S. Department of Commerce in Ann Arbor, Michigan, is seeking applicants for a scientific manager to serve as director, GLERL. Consisting of about 90 employees organized into 3 support service groups and 5 research groups, and having a budget of \$4 million per annum, GLERL conducts a program of research on the physics, chemistry, and biology of coastal and estuarine waters with a special emphasis on the Great Lakes. The position is career reserved in the Senior Executive Service. Salary is \$61,296 to \$72,300 per annum, negotiable based on experience, scientific achievements, and technical/managerial qualifications. **QUALIFICATIONS:** Broad understanding of theory and current state-of-the-art in physics, chemistry, and biology of coastal and estuarine waters; ability to conceive, design, direct, and evaluate research to improve understanding and prediction of ocean-atmosphere-land-sediment and environmental system; high level competence in physical and biological sciences and methods of numerical prediction and systems engineering; executive competence in broad areas of administration such as program planning and evaluation, multigroup coordination, resource acquisition and administration, organizational representation, and human resource utilization including EEO. **TO APPLY:** Please contact: **Louise Parrish, National Oceanic and Atmospheric Administration (NOAA), NCASC Personnel (RAS/DC2), 11420 Rockville Pike, Rockville, MD 20852; telephone: 301-443-6667** for application forms. Reference Vacancy number NS86-06LP closing 19 May. Applicants must have SF-171 and completed package to above by the closing date. *An Equal Opportunity Employer.*

LIPID METABOLISM/ MOLECULAR GENETICS

A basic Cardiovascular Research Center with a multidisciplinary approach is seeking a scientist in the field of lipid metabolism and/or molecular genetics. The candidate must be a recognized authority in the field, hold a Ph.D., and/or M.D. degree, and have a track record of contributions and funding. The candidate will participate in a multidisciplinary approach to the early detection and prevention of atherosclerosis vascular changes. Salary commensurate with qualifications. Please send a statement of research interests and complete curriculum vitae to: **Box 61, SCIENCE**.

NATIONAL INSTITUTES OF HEALTH, FELLOWSHIP IN BRAIN LIPID METABOLISM.

The Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, invites applications for a Staff Fellowship position to study brain lipid metabolism in relation to development and aging. Research opportunities include the 1) examination of incorporation of precursors of brain lipids in animals in vivo, using quantitative pharmacokinetic and autoradiographic techniques, 2) applying methods for subcellular and chemical fractionation of brain lipids, 3) examining intermediary brain lipid metabolism, 4) examining lipid composition of the human brain in relation to aging and Alzheimer's disease. The position is that of a Staff Fellow, Senior Staff Fellow or Medical Staff Fellow, with salary commensurate with qualifications. Appointments vary in duration from 2 to 7 years and are tenure-track. The position is located in Bethesda, Maryland, and is available October 1, 1986.

Applications are invited from qualified individuals having a Ph.D., M.D., or combined degrees, and pertinent research experience. NIH is an equal opportunity employer, and applications from women and minorities are invited. Interested candidates should submit their Curriculum Vitae to:

Dr. Stanley I. Rapoport, M.D., Chief
Laboratory of Neurosciences
National Institute on Aging
Building 10, Room 6C103
National Institutes of Health
Bethesda, Maryland 20892.

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

DIRECTOR BIOCHEMISTRY RESEARCH (CANADA)

Merck Frosst Canada Inc., the Canadian subsidiary of Merck & Co. Inc. has a challenging senior research position available as Director, Biochemistry Research. The Director will lead a small existing group within the Department of Pharmacology and will be expected to increase the size of the group through further recruitment. The Company's modern research facilities are located at Kirkland Quebec, a suburban community, 15 miles from downtown Montreal.

Current research at Merck Frosst is concerned with developing new therapeutic approaches to the treatment of asthma and allergic diseases, in particular through manipulations of the biosynthesis and actions of arachidonic acid metabolites including leukotrienes. The successful candidate would also be expected to initiate new research programs within the general area of lipid biochemistry and secondary signal transduction in order to develop oral therapeutic approaches to the treatment of allergic and inflammatory diseases.

Our ideal candidate will have a Ph.D. degree in the biological sciences, a proven record of scientific achievement and recognition evidenced by an extensive publication record. Additionally, the candidate will possess strong leadership and communication skills and a demonstrated ability for creative thinking.

Send curriculum vitae including a list of publications to

The Employment Manager
Merck Frosst Canada Inc.
P.O. Box 1005
Pointe Claire - Dorval
Quebec Canada
H9R 4P8

PROTEIN CHEMISTS / MOLECULAR BIOLOGISTS / BIOCHEMISTS JAPAN

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Count on making a contribution
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Hoechst, one of the world's largest pharmaceutical companies is presently seeking highly motivated and creative Scientists to work in the Department of Basic Research at our Japanese Research Institute. Rapid expansion of basic research is envisaged. The research areas include immunology, molecular biology, synthetic biology and microbial chemistry. The laboratories are modern, well-equipped and located in a pleasant suburb of Tokyo. An independent and open research environment prevails. Publication and interaction with other scientists throughout the world are actively encouraged.

Candidates for these positions should possess a PhD or MD degree, state-of-the-art knowledge and experience in one of the following fields:

- characterization of peptides and proteins
- computer-aided analysis of macromolecular structure
- growth factors and receptors
- gene cloning and expression
- microbial genetics and natural compounds

You should be capable of carrying out independent research at the bench. Both staff as well as postdoctoral positions are available in foregoing fields. Candidates are invited to send their CV including details of publications to: **Dr. Akio Fukuda, Hoechst Japan, Department of Basic Research, 1-3-2 Minamidai, Kawagoe-shi, Saitama 350, Japan (0492-43-6100).**

Hoechst



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Drug Delivery Research

We are currently seeking a self-motivated individual with background in animal science as related to drug delivery, pharmacology, or related biological science. Working knowledge of bioanalytical techniques (PAGE, RIA, HPLC) is desirable.

The individual will be responsible for both conducting research and supervising a scientific technical staff involved in development of drug delivery systems and applications, including peptides and anti-inflammatory agents. The position offers the opportunity to invent and develop novel formulations in the fields of lipids and liposomology.

Good communication and interpersonal skills are required. Postdoctoral training is not required. Applicants should forward curriculum vitae, selected reprints, and names of three references to:

Ms. Lee Bucchieri, Adm. Supervisor
The Liposome Company, Inc.
One Research Way, Princeton, NJ 08540

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POSITIONS OPEN

DIRECTOR OF PATHOLOGY

International Research and Development Corporation (IRDC) has a challenging opportunity available as director of our Pathology Division. You will be responsible for managing the scientific and technical operations of over 70 people in the Histopathology, Necropsy, Histology, and Clinical Pathology Departments.

Candidates should have considerable experience in toxicologic pathology, be Board-certified, and have some management experience. We offer a full-range benefits program, relocation expenses, and an open starting salary.

IRDC is one of the foremost contract research laboratories specializing in animal safety evaluation studies for the pharmaceutical, chemical, agricultural, and consumer industries. We are located near Kalamazoo, Michigan, midway between Detroit and Chicago, in an area affording a broad range of urban or rural lifestyles with excellent cultural and recreational opportunities.

Please submit résumés to:

Dr. Edwin I. Goldenthal,
Vice President and Director of Research
International Research and
Development Corporation
500 North Main Street
Mattawan, Michigan 49071

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

DEPARTMENT OF AGRICULTURE (USDA) AGRICULTURAL RESEARCH SERVICE (ARS)

DIRECTOR, U.S. Salinity Laboratory, Riverside, California. ARS is seeking a supervisory soil scientist, agricultural engineer, or plant physiologist to direct a research program on crop-water management with special emphasis on problems associated with saline and sodic soils. Candidates must have knowledge of: (i) crop-water management problems related to saline and sodic soils; (ii) soil chemistry and soil physics; and/or (iii) engineering principles related to soil and water; and/or (iv) plant physiology/chemistry principles of plant growth and metabolism. Ph.D. is desirable. Must be U.S. citizen. Salary is commensurate with experience, with salary range of \$44,430 to \$67,940 per annum. For information on the research program and/or position, contact: **William G. Chace, 415-486-3227**. To obtain announcement and application forms, contact: **Rita Millard, 301-344-3138, USDA, Agricultural Research Service, Personnel Operations Branch, Room 405, Building 003, BARC-W, Beltsville, Maryland 20705**. Announcement closes on 2 June 1986. *An Equal Opportunity Employer.*

FACULTY POSITION

Research Assistant/Associate Professor of Medicine, Division of Medical Oncology, Georgetown University. To help develop program in genetic organization of large bowel cancer and effects of growth factors on normal and neoplastic colon tissue. **Requirements:** Ph.D. in biochemistry or related area and 3 to 4 years relevant postdoctoral experience, clear interest in gene expression as related to cancer area. Record of productivity and ability to write clearly is essential. **Salary:** \$30,000, plus. **Reply:** **Paul V. Woolley, M.D., Vincent T. Lombardi Cancer Research Center, Georgetown University, 3800 Reservoir Road, NW, Washington, DC 20007.**

UNIVERSITY OF PENNSYLVANIA FACULTY POSITION

Applications are invited for a **postdoctoral fellow** appointment in the Department of Dermatology. The candidate must have a Ph.D. in an area of immunology and have skills and interest in the following areas: (i) immunologic methods for study of cell growth and differentiation in normal and neoplastic cells; (ii) lymphocyte interactions and homing patterns in skin; (iii) lymphocyte products and mediators; and (iv) generation of hybridomas and monoclonal antibodies. Salary negotiable. Send detailed résumé and list of three references to: **Brian V. Jegasothy, M.D., Professor and Vice-Chairman, Department of Dermatology, University of Pennsylvania, 329 Medical Education Building, 36th and Hamilton Walk, Philadelphia, PA 19104-6065.**

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

POSITIONS OPEN

DIRECTOR OF PEDIATRIC PATHOLOGY

Applications are invited from pathologists with previous medical school teaching experience for the position of director of pediatric pathology in the Department of Pathology at the College of Physicians and Surgeons, Columbia University. The appointment will carry a senior academic rank, depending on the candidate's previous experience. Requirements include diagnostic experience, demonstrated administrative and teaching ability, and experience in the training of house officers and fellows. A substantial record of publications is essential and applicants with research experience will be given a preference. Send curriculum vitae and names of at least three referees to: **John J. Fenoglio, Jr., M.D., Department of Pathology, 630 West 168 Street, New York, NY 10032.** *Columbia University is an Equal Opportunity Employer.*

FACULTY POSITION CENTER FOR BRAIN RESEARCH

University of Rochester
School of Medicine

Tenure-track faculty position available at the **assistant or associate professor** level. We are seeking a productive and experienced scientist with expertise in cellular immunology to join a group of investigators with career interests in Multiple Sclerosis (MS) within the Center for Brain Research at the University of Rochester School of Medicine. The center is a large, multidisciplinary department with an active advanced-degree program in neuroscience. The individual will have the opportunity to join an active and vigorous research program in MS that is broad-ranging and growing. Active ongoing programs currently include investigations in humoral immunity, experimental neuropathology or remyelination, and magnetic resonance techniques in the study of demyelinating diseases. Additionally, a large clinical research program is available to support the efforts of the laboratory-based investigators, and an opportunity for collaborations with investigators in neurology and immunology throughout the school.

Candidates should have earned a doctorate degree in immunology or molecular biology, and have a minimum of 2 years of postgraduate training. Additional experience in independent investigative work is highly desirable, as is an ongoing research project in the area described above. Salary will be competitive and based on experience. Candidates should submit curriculum vitae and a cover letter to: **Robert Herndon, M.D., Professor and Chairman, Center for Brain Research, University of Rochester School of Medicine.**

An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION DRUG DELIVERY/TARGETING

University of Southern California, School of Pharmacy, invites applications for tenure-track position in **DRUG DELIVERY or DRUG TARGETING** using immunological, cell biology, or biophysical approaches. Rank is open and dependent on qualifications. Candidates should possess a Ph.D. and preferably postdoctoral training in a biological, chemical, or pharmaceutical discipline. The successful candidate will complement our existing strengths in drug delivery and drug disposition and participate in team teaching in both undergraduate and graduate courses in the physical and biological aspects of drug delivery and drug action. Submit curriculum vitae, statement of research plans and accomplishments, and names of three references by 30 May 1986 to: **Dr. Vincent Lee, School of Pharmacy, University of Southern California, 1985 Zonal Avenue, Los Angeles, CA 90033-1086.**

An Equal Opportunity Employer, M/F/H.

IMMUNOLOGIST—Assistant Professorship; tenure-track, 12-month salary basis. Ph.D. or M.D. 2 years of postdoctoral experience. Expect establishment of independent research program and participation in teaching medical and graduate students. Position available 1 January 1987. Submit curriculum vitae, plus letter outlining research and teaching interests and have three reference letters sent to: **Dr. Dean D. Manning, Department of Medical Microbiology, University of Wisconsin Medical School, 1300 University Avenue, Madison, WI 53706.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITION IN MICROBIOLOGY

The Dr. William M. Scholl College of Podiatric Medicine invites applications for a full-time position in the Department of Microbiology and Pathology. A Ph.D. in microbiology or related area is required. We offer faculty rank and salary commensurate with professional experience and achievements. The position is available 1 July 1986.

The major duty is teaching a comprehensive course in medical microbiology, including laboratory, to second-year medical students. Limited intramural funds are available to assist in personal research interests.

Qualified applicants may submit a letter of application, curriculum vitae and supporting material, including names of three references, by 16 May 1986 to:

Mr. Harold J. Stronach
Director of Human Resources
Dr. William M. Scholl College of Podiatric Medicine
1001 North Dearborn Street
Chicago, IL 60610
An Equal Opportunity Employer

FACULTY POSITION IN MOLECULAR PATHOGENICITY

The Department of Medical Microbiology and Immunology at the Albert B. Chandler Medical Center/University of Kentucky invites applications for a tenure-track faculty position at the assistant professor level. We are seeking an individual with research interests and expertise in the area of molecular mechanisms of bacterial pathogenesis. The position is a 12-month appointment with a competitive salary and negotiable starting date. Candidates must have relevant postdoctoral training, outstanding research credentials, and an interest in participating in an active graduate teaching and training program. Excellent support for research start-up, technical assistance, and equipment will be provided. The Medical Microbiology and Immunology Department at the University of Kentucky has 18 faculty members with a strong history of federal funding and administers an NIH training grant that can provide support for graduate students and postdoctoral fellows. Major research strengths are in molecular biology/genetics and immunology. The department provides a superior intellectual environment for research programs in mechanisms of pathogenesis, with diverse opportunities for collaboration and consultation. The Microbiology Graduate Program is a multidisciplinary effort and consists of 33 faculty members with broad research interests in immunology, molecular virology, membrane biochemistry, and bacterial physiology and genetics. Interested individuals should apply by sending curriculum vitae, a brief statement describing proposed research, and three letters of reference to: **Dr. Susan C. Straley, Department of Medical Microbiology and Immunology, University of Kentucky College of Medicine, Lexington, KY 40536-0084.** *The University of Kentucky is an Equal Opportunity/Affirmative Action Employer.*

LABORATORY SUPERVISOR

B.S. or M.S. in chemistry required and 4 to 8 years of industrial experience. Supervises analysis of mineral supplements and ground limestone fillers. Ideal candidate will be well versed in analytical chemistry with AA or ICAP experience and have had some exposure to QC procedures. Opportunities for both process and product development in a small progressive organization. For consideration, send résumé and salary requirements to:

Personnel Manager
J. M. HUBER CORPORATION
Calcium Carbonate Division
3150 Gardner Expressway
Quincy, IL 62301
Equal Opportunity Employer, M/F

LIPID RESEARCHER to study phospholipids in calcium uptake and release from cardiac muscle sarcoplasmic reticulum. Required Ph.D. in lipid biochemistry, plus knowledge of subcellular membrane fractions, use of radioisotopes, column and thin layer chromatography, ultracentrifugation, electrophoresis, and spectrophotometry, plus two years of experience in lipid research. Salary \$21,000 per year. D.O.T. number 041.061.062. Send résumé to: **New York State Job Service, J.O. number NY 800 5841, 97-45 Queens Boulevard, Rego Park, NY 11374.**

DIRECTOR OF REGULATORY AFFAIRS

A large scale cell culture biotechnology manufacturing company is in need of a DIRECTOR OF REGULATORY AFFAIRS. The ideal candidate will have 5-8 years previous experience managing the regulatory function for a biological product manufacturing company. This individual will represent the company to the FDA. A Ph.D. degree is desirable but not essential.

Invitron Corporation is dedicated to the utilization of cell culture systems for the discovery and manufacture of biologically important biomolecules.

We offer excellent compensation and benefits and opportunity for personal growth. For immediate consideration, please submit your resume in confidence to:

Michael G. Harris
Director, Human Resources
Invitron Corporation
8000 Maryland, #860
Clayton, Missouri 63105

An Equal Opportunity Employer

Ph.D.'s Pharmacology-Biochemistry

Merck Sharp & Dohme Research Laboratories has recently committed to an expansive research effort in the field of Ocular Pharmacology. As a result, two new positions are currently available:

Ocular Pharmacologist

Responsibilities for this position will involve the discovery and evaluation of novel compounds for the treatment of glaucoma, and investigation of new approaches to developing therapies for disorders of the eye.

This position requires a broadly trained Ph.D. in Pharmacology, Biochemistry, Physiology or the equivalent with a minimum of 2 years postdoctoral training.

Pharmacologist/Biochemist

In addition to investigating new approaches to developing therapies for disorders of the eye, the individual will have the responsibility for directing ongoing studies to elucidate the disposition and pharmacokinetics of ocular drugs.

This position requires a broadly trained Ph.D. in Pharmacology, Biochemistry, Chemistry or the equivalent with a minimum of 2 years postdoctoral training. Background and training should include significant experience in analytical techniques including (but not limited to) HPLC, GLC and radiochemical analysis. Interest in the evaluation and development of ocular delivery systems would be advantageous.

Successful candidates must possess a significant publication record and be able to work both independently as well as in a group research environment.

Excellent salary and benefit programs accompany these positions at our modern and spacious research laboratories located in suburban Philadelphia, Pa. Please submit your resume in complete confidence to:

Mr. Jacques P. Kueny

MERCK SHARP & DOHME
RESEARCH LABORATORIES
West Point, PA 19486

EEO/AA/VH/EMPLOYER



Merck & Co., Inc.

Research Scientists

Triton Biosciences Inc., a subsidiary of Shell Oil Company, is an emerging force in the development of cancer diagnostics and therapeutics. Our Company is built upon a strong base of research expertise, solid support and responsive management. Excellent opportunities exist for innovative Ph.D. scientists in the following areas:

Scientist/ Extramural Research

We are seeking a project coordinator to work with the Manager, Extramural Research. In this assignment, you will set up Triton-funded university research programs in cancer diagnostics and therapeutics, monitor progress, and transfer product leads to the Company's research laboratories.

Candidates need a broad knowledge of cancer and particular knowledge of several aspects of current cancer research. They should also be familiar with other current biomedical research. A suitable background would be a Ph.D. in Immunology or Cell Biology followed by a minimum of 3 years experience in cancer research, preferably running a research group in a university or biotechnology company. (Refer to ad SC02)

Research Scientist/ Immunology

We currently have an excellent opportunity in our Molecular and Cell Biology Department for an Immunologist with 2-4 years of post doctoral work or industrial equivalent. Candidates must have direct experience in the isolation and characterization of cells of the immune system and characterization of immune system protein growth factors in addition to familiarity with cell fusion protocols. Experience in a commercial environment is highly desirable. (Refer to ad SC03)

Triton is located in the San Francisco Bay area, offers competitive salaries and benefits, including relocation assistance. For prompt consideration, please forward your C.V. along with salary requirements and the names of three references to: Triton Biosciences Inc., 1501 Harbor Bay Parkway, Alameda, CA 94501, Attn: Employee Relations. All candidates must have U.S. citizenship or permanent resident VISA status. Triton is an equal opportunity employer.



Triton Biosciences Inc.

POSITIONS OPEN

FACULTY POSITION IN TOXICOLOGY UNIVERSITY OF WISCONSIN-MADISON

The Department of Comparative Biosciences, School of Veterinary Medicine, invites applications for a tenure-track position in toxicology. Individuals with research interests in biochemical toxicology are encouraged to apply. There is an opportunity to participate in the campus Environmental Toxicology Center. A strong commitment to research and teaching excellence is expected. Candidates must have a Ph.D., or equivalent degree, with postdoctoral experience. Rank and salary will be commensurate with qualifications. Send curriculum vitae, with selected reprints, research objectives, and the names of three references by 30 June 1986 to: Dr. James W. Tracy, Chair, Search Committee, Department of Comparative Biosciences, University of Wisconsin, 2015 Linden Drive W., Madison, WI 53706. An Affirmative Action/Equal Opportunity Employer.

IMMUNOLOGY PROGRAM: Department of Medicine, University of New Mexico on 1 July 1986 postdoctoral position. M.D. or Ph.D. with interest and background in immunology. Emphasis on human autoimmunity and human cancer immunology, including activated killer cells and regulation. U.S. citizens or permanent U.S. residents APPLY TO:

Postgraduate Research Committee
Arthur D. Bankhurst, M.D.
UNM School of Medicine
Albuquerque, NM 87131

Affirmative Action/Equal Opportunity Employer.

INHALATION TOXICOLOGIST Brookhaven National Laboratory

A position is available for a Ph.D. in toxicology to work in a modern inhalation facility with highly trained technical staff in the Medical Research Center at Brookhaven National Laboratory. Candidates must have experience in developing and running generation systems for various classes of compounds. Excellent opportunity to develop skills and experience in the field of inhalation toxicology.

Applicants and nominations are invited. Applications must include curriculum vitae and the names of three references. Respond by 2 June 1986 to: Dr. Sonja B. Haber, Chair/Search Committee, Medical Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973. Equal Opportunity Employer, M/F.

LABORATORY DIRECTOR MOLECULAR GENETICS

BioGrowth, a recently organized and funded biotechnology company needs a dynamic laboratory director to build and direct a molecular genetics team. The successful applicant will be involved in cloning and developing expression systems for a wide range of proteins. Additionally, this person will have the opportunity to recruit and build a strong team of professionals that will be an important factor in the success of this new company.

An in-depth technical knowledge of state-of-the-art cloning and expression system development is required. The qualified candidate will have a Ph.D. from a leading university, and applicable postdoctoral experience, as well as demonstrated managerial accomplishment. Industrial management and/or start-up experience is a plus.

We offer excellent salary and benefits. For confidential consideration, send your résumé, salary requirements, a letter describing your qualifications, and the names of three references to: Vice President and Technical Director, BioGrowth Inc., 505 Ortega Street, San Francisco, CA 94122.

POSTDOCTORAL ASSOCIATE—To study the molecular mechanism of exocytosis in an in vitro system [*J. Cell Biol.* 101 2263-2273, (1985)]. Experience in membrane biochemistry, protein purification, or development and use of monoclonal antibodies is preferred; however, individuals with a strong background in related areas are encouraged to apply. Position will be available as of January 1987. Please send curriculum vitae and three letters of recommendation to: Dr. Robert C. Jackson, Department of Biochemistry, Dartmouth Medical School, Hanover, NH 03756. Equal Opportunity Employer.

POSITIONS OPEN

MOLECULAR BIOLOGISTS AND MOLECULAR GENETICISTS

The Medical University of South Carolina has established a Center in Cardiovascular Molecular and Structural Biology. This center will be integrated with a strong and well supported program in cardiovascular research. The center will include eight components:

- Molecular biology and genetics
- Protein and nucleotide sequencing and synthesis
- X-ray crystallography and high field (2D) NMR
- Molecular and macromolecular modeling computer graphics
- Medicinal chemistry/organic synthesis
- Organoanalytical chemistry/mass spectrometry
- Cell and molecular pharmacology and experimental therapeutics
- Experimental and clinical adult and pediatric cardiology

The latter four are in place and the protein and nucleotide sequencing/synthesis component is being established.

The center's next priority is establishment of the molecular biology/genetics component. Up to ten new laboratories, including centralized cell culture and hybridoma facilities, will be dedicated to this component. Positions are now available for six molecular biologists at the assistant professor to professor level. At least one of these will be a senior scientist capable of providing leadership for the molecular biology/genetics component. This individual must have an outstanding record of innovation and productivity in any area of modern molecular biology/genetics.

Send letters of nomination and applications to: Drs. Thomas E. Gaffney, Paul R. Gillette and James F. Spann, Co-Chairmen, Steering Committee for the Center in Cardiovascular Molecular and Structural Biology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425. Applications should include a statement of research interests and curriculum vitae. The Medical University is an Equal Opportunity/Affirmative Action Employer, M/F.

MOLECULAR BIOLOGISTS

Tenure-track faculty positions are available 1 July 1986 or 1987 at the assistant, associate, or full professor level for individuals with a doctorate degree and a strong background in molecular biology. Applicants must have a strong potential to develop an externally funded research program or current support. Salaries are highly competitive. Interested individuals should submit curriculum vitae, names and addresses of three references, a brief outline of research plans, and a brief summary of past research to:

Dr. Charles A. Blake
Department of Anatomy
University of South Carolina
School of Medicine
Columbia, SC 29208

An Equal Opportunity/Affirmative Action Employer.

NEUROENDOCRINOLOGY POSTDOCTORALS

Two positions are available to study brain control of the development, growth, and maintenance of the structure and function of the anterior pituitary gland via a multidisciplinary approach. Salaries are competitive. Send curriculum vitae and names and addresses of three references to:

Dr. Charles A. Blake
Department of Anatomy
University of South Carolina
School of Medicine
Columbia, SC 29208

An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL OR RESEARCH ASSOCIATE POSITION available immediately for 2 to 3 years to participate in studies involving molecular cloning and expression of falciparum malaria genes. Should have some experience with biochemical techniques. Salary negotiable, depending on experience. Send curriculum vitae and three letters of reference to: Dr. A. C. Vezza, Department of Microbiology, University of Alabama at Birmingham, Birmingham, AL 35294. An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

NEUROPHYSIOLOGY

Applications are invited for a position in neuroscience at the assistant professor level in the Department of Physiology at the University of Manitoba, Faculty of Medicine. Candidates should have a Ph.D. or equivalent with postdoctoral training, and be eligible to compete for local and national scholarship awards. Send curriculum vitae, an outline of future research plans, and arrange for three letters of reference to be sent to: Dr. H. G. Friesen, Professor and Head, Department of Physiology, University of Manitoba, Winnipeg, Manitoba, Canada R3E 0W3. Receipt of applications is 1 June 1986. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

ORAL MICROBIOLOGIST. Tenure-track. Assistant professor position available after 1 July 1986. Candidates should have research interests in bacterial genetics or virology at the molecular biology level. Responsibilities include contribution to departmental teaching effort and participation in a joint Ph.D. graduate program with the School of Medicine. The applicant will be expected to maintain independent research and successfully compete for financial support. Applicant should send curriculum vitae and the names and addresses of three referees to: Dr. David Platt, Department of Microbiology-Biochemistry, School of Dental Medicine, University of Pittsburgh, Pittsburgh, PA 15261. Closing date for position is 15 June 1986. The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL/ASSISTANT RESEARCH POSITIONS (two) available for 3 years, in an established program on the role of silicon in metabolic processes of a lower eukaryote. Two areas to be studied: (i) Regulation of syntheses of DNA, cAMP, cAMP-dependent protein kinase, phosphoproteins, and/or polyamines [*Plant Physiol.* 76, 674 (1984); *Arch. Microbiol.* 137, 291 (1984)]. Background in microbiology/biochemistry, and experience in methodologies for any of the above studies required. Salary starting at \$21,804 to \$23,328. (ii) A novel system of regulation of gene expression and replication by silicon, by analysis of gene banks previously constructed in this laboratory. Cloned yeast genes have been used successfully to identify diatom genes of similar function in the banks and at least one yeast mutation *leu 2⁻* has been complemented using cloned diatom DNA sequences [*J. Gen. Microbiol.* 131, 1735 (1985)]. Background in molecular biology. Proficiency in recombinant DNA techniques: cDNA cloning, analysis of gene banks, vector construction, Southern and Northern hybridization, transformation, analysis of regulatory sequences; DNA sequencing desirable. Salary starting at \$21,804 to \$26,628, depending on qualifications. Send complete curriculum vitae, reprints, and three letters of reference to: Dr. B. E. Volcani, Scripps Institution of Oceanography, University of California, La Jolla, CA 92093. Telephone: 619-452-2194. Applications will be accepted until positions are filled. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW POSTDOCTORAL POSITION IN BIOPHYSICS OF IMMUNE RECOGNITION

Participate in research program involving studies of antibody/liposome/cell interactions. Requires recent Ph.D. in immunology, cell biology, biochemistry, biophysics, or related field. Applicants must have demonstrated research ability and ability to work in interdisciplinary fields. Stipend range from \$1750-\$2035 per month, depending on experience. Please send curriculum vitae and three letters of recommendation to:

Dr. John Owicki, Associate Professor of Biophysics and Medical Physics, University of California, Berkeley.

Attention: Ms. Jacquelyn Schilling
Lawrence Berkeley Laboratory
Employment Office
M.S. 90-1042
Number 1 Cyclotron Road
Berkeley, CA 94720

Please specify Job Number B13734. An Equal Opportunity Employer, M/F/H.

LAWRENCE BERKELEY LABORATORY

Medical Physics Group Head

A position is available for an experienced M.D. or Ph.D. research scientist to head the Medical Physics Group in the Medical Research Center at Brookhaven National Laboratory. The primary ongoing program involves in vivo neutron activation analysis applied in research on bone and body composition. Other programs are directed to the development of nuclear and related techniques for clinical application. Candidates must have strong records of independent research accomplishment.

Applications and nominations are invited. Applications must include a curriculum vitae and the names of three references. Respond by June 2, 1986 to: Dr. Victor P. Bond, Chairman/Search Committee, Medical Research Center, Brookhaven National Laboratory, Associated Universities, Inc., L.I., New York 11973. Equal Opportunity Employer m/f.

**BROOKHAVEN
NATIONAL LABORATORY**
ASSOCIATED UNIVERSITIES INC.

Principal Investigator Immunology

Two staff positions at the level of Principal Investigator are open within the Immunology Group at Du Pont's Glenolden Laboratory in Pennsylvania. One position is for a cellular immunologist with extensive experience using functional clones of T lymphocytes. The other opening is for an immunologist or biochemist with experience in membrane receptors and signal transduction. Successful candidates will conduct independent innovative basic research within a multidisciplinary group studying the mechanistic action of lymphokines and cytokines. Candidates should possess a PhD degree and have two or more years of postdoctoral experience and extensive publication in scientific journals.

At the world renowned Du Pont Company, you'll find a highly stimulating scientific environment in addition to an excellent salary and fringe benefits. To be considered, please send resume, bibliography, and references no later than July 23, 1986 to Dr. Robert A. Schunn, Central Research and Development Department, E. I. du Pont de Nemours and Company, Experimental Station, Wilmington, DE 19898.



U.S. Citizenship or Permanent Visa required.
An Equal Opportunity Employer M/F

RESEARCH SCIENTISTS/ RESEARCH ASSOCIATES

Department of Molecular Cell Biology

Amgen, a leading biotechnology research and product development corporation, has opportunities for **Research Scientists** and **Research Associates** to make significant contributions in the area of Eukaryotic Gene Expression.

The **Research Scientist** positions requires a Ph.D. in Molecular Biology or related field and experience, preferably postdoctoral, in Eukaryotic Molecular Genetics and Cell Culture Methodology. Additional experience in Cell Biology and Virology is desirable.

The **Research Associate** positions requires a B.A. in Biology, Biochemistry or related field and two years of experience in Cell Culture and/or Recombinant DNA Methodology or a M.A. and one year of experience.

Amgen offers an attractive compensation and benefits package, including equity participation, and is located in an attractive community northwest of Los Angeles.

Qualified candidates are encouraged to submit a resume, including references, to: **Bill Puchlevic**, Recruitment/107, **AMGEN**, 1900 Oak Terrace Lane Thousand Oaks, CA 91320



An Equal Opportunity Employer

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- ☐ **Query:** If you have a question, place your address label here and attach this form to your letter.
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- ☐ **Membership rates** (individual only)
 - ☐ \$65 USA ☐ \$84 Canada ☐ \$87 Foreign
 - ☐ \$125 air-surface delivery via Holland
- ☐ **Subscriber rates**
 - ☐ \$98 USA ☐ \$122 Canada ☐ \$125 Foreign
 - ☐ \$163 air-surface delivery via Holland

- ☐ Payment enclosed ☐ Bill me later

Name Please print

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LABEL
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SA16R65

POSITIONS OPEN

POSTDOCTORAL AFFILIATE ASSOCIATE-BIOCHEMISTRY

Position available 1 October 1986 to study the multisubunit muralytic (plant cell wall-degrading) enzyme complex of *Ruminococcus albus* and related enzymes produced by other strictly anaerobic ruminal bacteria. This exciting opportunity requires a candidate with extensive experience in protein purification, characterization, and modification. Experience in anaerobic microbiological techniques is a plus, but is not necessary. The selected candidate will join a dynamic group of researchers working in the area of rumen microbiology/biochemistry, and is expected to contribute to related projects. The position appointment (2 years) will be at GS-9-11, \$21,804 to \$26,381/year. Send curriculum vitae and the names of three references to: **Dr. Robert Stack, Northern Regional Research Center, Agricultural Research Service, U.S. Department of Agriculture (USDA), 1815 North University Street, Peoria, IL 61604. The USDA is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOW UNIVERSITY OF ALABAMA AT BIRMINGHAM

Applications are invited for a postdoctoral fellow position in the Department of Cell Biology and Anatomy. The area of research will include molecular and cellular characterization of microtubule organizing centers with particular emphasis on the centromere/kinetochore of mammalian chromosomes. Prefer experience in cell culture, recombinant DNA methods, and protein chemistry. Will perform gene cloning, sequencing, DNA-protein interaction, microinjection, and immunocytochemistry at light and EM level. Submit current curriculum vitae including three letters of reference by 1 June 1986 to: **Dr. B. R. Brinkley, Professor and Chairman, Department of Cell Biology and Anatomy, University of Alabama at Birmingham, University Station, Birmingham, Alabama 35294. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE being sought who will be involved in research on phosphoinositide metabolism in human platelets with emphasis on the regulation of phospholipase C; production of diglyceride and phosphatidic acid; phosphorylation of proteins in voltage-permeabilized platelets and mass determinations of inositol phosphates (including IP₃) under a variety of conditions. Requirements include Ph.D. in biochemistry, with a strong background and demonstrated research capabilities in the field of lipid biochemistry and kinetic studies on lipases in mammalian systems. Skills in TLC, GC, gel electrophoresis, usage of radioisotopes, enzyme kinetics (particularly lipases), and working familiarity with high-voltage induced cell permeabilization and mass determinations of inositol phosphates desired. One year of postdoctoral experience and ability to perform innovative, long-range research required. U.S. citizens only. Salary \$18,500 per year; 40 hours per week. Respond with résumé only to: **Vermont Job Service, Box 310, Burlington, VT 05402, Attention Lee Blodgett.**

POSTDOCTORAL POSITION: NIH-funded position available immediately at MBL to study the mechanism of a rotary axostyle and membrane shear in protozoa, or bioelectric control of ciliary motion and Ca regulation of microtubule sliding in ctenophores. Experience in microscopy, biochemistry, or electrophysiology preferred. Apply to: **Dr. Sidney Tamm, Boston University Marine Program, Marine Biological Laboratory, Woods Hole, MA 02543.**

POSTDOCTORAL POSITIONS/MOLECULAR AND CELLULAR IMMUNOLOGY/RECOGNITION OF ANTIGENIC SITES. Openings for two recent Ph.D.'s in molecular/cellular immunology with skills in preparation and characterization of B- and/or T-cell hybridomas to study the fine specificity of antibody and T-cell recognition of staphylococcal nuclease. The research involves an active collaboration with scientists doing peptide synthesis, x-ray analysis, and computer modeling. Successful applicants will acquire state-of-the-art training in peptide synthesis, site-specific mutagenesis, protein expression, and molecular biology. Telephone or write: **John A. Smith, M.D., Ph.D., Department of Molecular Biology, Massachusetts General Hospital, Fruit Street, Boston, MA 02114, 617-726-5954.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS: Available for studies in various aspects of cancer research and toxicology in the Center In Molecular Toxicology through the Departments of Biochemistry, Chemistry, Pharmacology, and Pathology. Areas of investigation include synthetic chemistry related to toxic chemicals, isolation and characterization of natural products, mechanistic bio-organic chemistry, chemistry of heavy metal antidotes, DNA-carcinogen physical interactions, enzymology and regulation of animal and human cytochromes P-450, cloning of genes coding for DNA repair enzymes, cytochromes P-450, and chromatin proteins, the basis of metal carcinogenesis, chromatin function, hepatocarcinogenesis, cicosanoids, regulation of glutathione metabolism, and developmental mass spectrometry. Salaries negotiable. Applicants should submit curriculum vitae and three letters of recommendation to: **Dr. F. P. Guengerich, Center In Molecular Toxicology, Vanderbilt University School of Medicine, Nashville, TN 37232. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately to work on the molecular mechanism of retinoblastoma—an inheritable cancer. Applicants should either have experience in recombinant DNA technology, or Ph.D. in chemistry. Send curriculum vitae and three letters of reference to: **Dr. W. H. Lee, Department of Pathology, M-012, University of California, San Diego (UCSD), La Jolla, CA 92093. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN NEUROTOXICOLOGY to study electrophysiological changes in spinal cord function following toxic insult. Experience in electrophysiology helpful, but not necessary. Salary \$18,000. Send curriculum vitae with the names of three references to: **Dr. Barry D. Goldstein, Department of Pharmacology and Toxicology, Medical College of Georgia, Augusta, GA 30912-3368. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS available for study of the relation between structure and function of the *Escherichia coli* RNA polymerase and the cAMP receptor protein. The research involves the use of monoclonal antibodies directed against these proteins. Background in protein chemistry is desirable. Each appointment carries an annual salary of \$20,000. Send curriculum vitae and three references to: **Dr. Joseph S. Krakow, Department of Biological Sciences, Hunter College of CUNY, 695 Park Avenue, New York, NY 10021. An Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS (2) available 1 July to study the electrophysiology and pharmacology of the heart with special focus on cardiac arrhythmias. Experience with electrophysiological (microelectrode) techniques is highly desired. Send curriculum vitae and two references to: **Dr. Charles Antzelevitch, Masonic Medical Research Laboratory, 2150 Bleeker Street, Utica, NY 13504.**

POSTDOCTORAL POSITION available for biochemical studies on: (i) structure and regulation of cardiac Ca-channels, (ii) regulation of cardiac muscarinic receptors. Recent Ph.D. in biochemistry or pharmacology required; experience in membrane biochemistry and/or protein purification desired. Send curriculum vitae and names of three references to: **Dr. M. M. Hosey, Department of Biology, Chemistry and Structure, University of Health Sciences/The Chicago Medical School, North Chicago, IL 60064.**

POSTDOCTORAL POSITIONS available immediately to study transcription regulation and antitermination in *E. coli* ribosomal RNA operons or mutations affecting rRNA structural genes. Send curriculum vitae and three letters of reference to: **Dr. Edward Morgan, Department of Experimental Biology, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, NY 14263.**

POSTDOCTORAL POSITION IN CHEMICAL CARCINOGENESIS available for research on mechanism of tumor induction by nitrosamines. Emphasis on early events in carcinogenesis including carcinogen metabolism and DNA alkylation and its consequences. Send curriculum vitae and names of three references to: **Dr. Michael C. Archer, Department of Medical Biophysics, University of Toronto, Ontario Cancer Institute, 500 Sherbourne Street, Toronto, Ontario, Canada M4X 1K9.**

POSITIONS OPEN

POSTDOCTORAL POSITION— LYME DISEASE

To study relation of the Lyme disease spirochete (*Borrelia burgdorferi*) to its arthropod vectors and vertebrate hosts. Working knowledge of immunochemical and microbiological techniques, and experience handling human pathogens preferred. Must be willing to assist in ongoing field studies as needed. Ph.D. in medical entomology, medical microbiology, or related field required. Salary range \$20,900 to 21,800 per year, depending on qualifications. Starting date November 1986. Initial appointment for 12 months, may be renewable once. Application deadline 1 July 1986. Send curriculum vitae, statement of interest, and three letters of reference to: **Dr. Robert S. Lane, Department of Entomological Sciences, 201 Wellman Hall, University of California, Berkeley, California 94720. Telephone 415-642-4385 or 642-3327 (messages).**

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

POSTDOCTORAL POSITION available to study cognitive-neuromotor effects of psychotropic drugs. Involves assessment of relationship of pharmacodynamics to pharmacokinetics. Background in behavioral pharmacology desirable. Send curriculum vitae and names of three references to: **Everett H. Ellinwood, Jr., M.D., Box 3870, Duke University Medical Center, Durham, NC 27710.**

POSTDOCTORAL POSITION in the area of biochemistry and gene expression of cardiac myosin and collagen. The successful applicant, based in our Genetics Department, will be a member of a multidisciplinary group of clinical and basic researchers studying experimental hypertension and cardiac hypertrophy in baboons as a model for humans. A strong background in biochemistry, genetics, or molecular biology is required. Send curriculum vitae, university transcripts, and the names and addresses of three references to: **Personnel Manager, Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284. Equal Opportunity Employer, M/F.**

A position of **POSTDOCTORAL RESEARCH ASSOCIATE** is available in an ongoing study on the physical and chemical basis of lipid regulation of various types of transport in native and reconstituted membranes [*Biochem.* 23, 6901 (1984); *Biochem.* 24, 2865 (1985)]. Applications are invited from individuals with a background in biochemistry, biophysics, or membrane physiology. Salary will be based on experience. Inquiries should be sent with curriculum vitae and three letters of recommendation to: **Dr. D. L. Melchior, Department of Biochemistry, University of Massachusetts Medical School, Worcester, MA 01605.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL RESEARCH SCIENTISTS

An x-ray crystallographer and an electron microscopist with experience in image analysis are sought to join a program aimed at understanding the structure, composition, and assembly of adenovirus. The department offers a stimulating and well-equipped scientific environment. Candidates should send complete résumé and have three letters of recommendation forwarded to: **Dr. Roger M. Burnett, Department of Biochemistry and Molecular Biophysics, Columbia University, College of Physicians and Surgeons, 630 West 168 Street, New York, NY 10032; telephone: 212-305-3856.**

Columbia University is an Equal Opportunity/Affirmative Action Employer.

Research Associate—Job Order Number 656069
40 hours per week—\$20,000 per year

Synthesize organic nitrogen compounds having near zero hydrogen content. Prepare high-energy compounds as synthetic fuels. Study the syntheses and reactions of Polyaza caged compounds. Use appropriate tools such as infrared (IR), nuclear magnetic resonance (NMR) spectrometers, and chromatographic techniques. Must have sufficient knowledge and background to perform job described. The candidate must have either a Ph.D. or completed all the requirements for Ph.D. in chemistry.

Contact: **Louisiana Office of Employment Security**
617 St. Charles Avenue
New Orleans, LA 70130

RESEARCH SCIENTISTS

Salsbury Laboratories, a pacesetter in the animal health industry, has an extremely active research program that focuses major resources on continuing our leadership in the development of avian and porcine vaccines. We currently have the following challenging opportunities available:

MICROBIOLOGIST

This senior level position requires an individual with a PhD and extensive experience in the development of animal health vaccines. The successful candidate will have expertise in project management and will possess strong interpersonal skills.

POULTRY VIROLOGIST/IMMUNOLOGIST

Our selected candidate will have a minimum of a PhD with extensive hands-on experience in the development of poultry vaccines.

CELL CULTURE SPECIALIST

This position requires a PhD or MS coupled with in-depth knowledge of cell cultures and cell line development.

VIROLOGIST

The focus of this position is swine vaccine development. Candidates will have a PhD or Master's degree together with a minimum of two years experience directly related to vaccine development. Specifically, the ideal candidate will be knowledgeable in virus isolation, identification, and purification as well as in protein characterization and adaptation of cells for cultivation.

POST DOCTORAL IMMUNOLOGIST

A take-charge individual is required to carry out immunization and route-of-administration studies. Candidates must possess experience in research associated with the mucosal immune system. Previous working experience with avian immune systems is highly desirable.

If you are interested in assignments at a high level of technical challenge and in contributing substantially to progressive research activities, join our ultramodern laboratory environment. We offer excellent salaries commensurate with experience and expertise as well as generous fringe benefits. For confidential consideration, forward your curriculum vitae, including salary history and expectations, to:

John M. Hughes, Director, Human Resources

SALSBURY LABORATORIES, INC.

2000 Rockford Road, Charles City, IA 50616

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Research Scientist Drug Metabolism



An equal opportunity employer

The Drug Metabolism Department of Pfizer Central Research participates in all phases of the discovery and development of new drugs. The Department is now seeking a PhD scientist, with or without postdoctoral experience, who has expertise in pharmacokinetic modeling and derivations, and application of computer programs to analyze kinetic data.

You will be responsible for assisting other members of the Department in matters relating to pharmacokinetics and associated computer programs. You will also be assigned to a drug discovery or development project team and be responsible for all studies of drug disposition including kinetics, assay development, and biotransformation in that project area.

Excellent equipment and support systems are available in our new facilities. If you are interested and qualified for this position, which offers a sound opportunity for professional and career growth, please send a resume and description of research accomplishments to: Dr. Jerry K. Larson, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.

Genentech, Inc., a leader in the field of biotechnology, located on the San Francisco Peninsula, has the following opportunities:

Associate Scientist/Scientist

This position in our Assay Development Group will involve working toward understanding the immune response of animals to recombinant proteins derived from cloned viral genes. The recombinant proteins will be characterized using techniques such as competitive radioimmunoassays and other in vitro immunological methods. The goal will be to develop assays to measure the immunogenic potency of the recombinant viral proteins. Successful candidate will have a PhD in Virology or Immunology and up to 2 years of relevant postdoctoral experience. (#4272)

Postdoctoral Researcher

We need a postdoctoral researcher to join a group interested in mechanisms of tumorigenesis and spontaneous resistance to chemotherapeutic drugs and tumor cell cytotoxins. Successful candidate will be capable of independent research and have a PhD with a strong background in molecular/cellular biology and genetics. (#1109)

Postdoctoral Researcher/Microbiology

We seek an individual trained in microbial genetics and physiology who is familiar with basic recombinant DNA manipulations, to interface with a group actively engaged in metabolic pathway engineering. The aim of this group is the creation of novel in vivo routes for the synthesis of small molecules. Successful candidate will have a relevant PhD in Microbiology, etc. (#1427)

Genentech offers competitive salaries and benefits and the opportunity to make a significant contribution to our organization. Please send resume, indicating position number, to Human Resources Dept., Genentech, Inc., 460 Point San Bruno Boulevard, South San Francisco, CA 94080. An equal opportunity employer.



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POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to study nuclear control of mitochondrial gene expression or genetics of mitochondrial membrane assembly in *Saccharomyces cerevisiae*. Salary is \$16,000 to \$18,000 per year. Preference given to a recent Ph.D. with experience in recombinant DNA, molecular genetic, and/or immunodetection methods. Send résumé, bibliography, and names/addresses of three references to: Dr. Joan McEwen, Department of Microbiology, University of California, Los Angeles (UCLA), 405 Hilgard Avenue, Los Angeles, CA 90024.



POSTDOCTORAL RESEARCH ASSOCIATE

Nova Pharmaceutical Corporation has an immediate opening for a postdoctoral research associate in the CNS Pharmacology section under the supervision of Dr. Michael J. Pontecorvo. The candidate will have the opportunity to participate in all aspects of a laboratory focused on understanding the mechanisms of age and disease related cognitive loss, and developing novel cognition enhancing compounds. Studies cover both applied and basic research (publication encouraged) and we have active collaborations with other scientists within Nova and throughout the Baltimore area.

The ideal candidate should have a Ph.D. in experimental psychology or a related area (0 to 2 years of postdoctoral experience). A strong background in animal learning and memory and in psychopharmacology is required. Experience working with nonhuman primates and a familiarity with computer operations (SKED, Fortran) are also desirable.

Nova offers competitive salaries and an excellent benefits package. For further information, please enclose a current résumé with salary requirements to:

Lydia K. Battaglia
NOVA PHARMACEUTICAL CORPORATION
5210 Eastern Avenue
Baltimore, Maryland 21224-2788
An Equal Opportunity/Affirmative Action Employer

TWO POSTDOCTORAL RESEARCH ASSOCIATE positions are available from 1 July 1986 to investigate National Science Foundation (NSF) and NASA supported projects on molecular mechanisms of calcium and hormone action in plants. Background in biochemistry and molecular biology are required. Starting salary \$21,000. Send curriculum vitae and three letters of recommendation to: Dr. B. W. Poovaiah, Professor, Department of Horticulture, Washington State University, Pullman, WA 99164-6414. *WSU is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSISTANT PROFESSORSHIP IN RENAL CELLULAR FUNCTION AND TRANSPORT AT WAKE FOREST UNIVERSITY WINSTON-SALEM, NORTH CAROLINA

Academically oriented holders of D.V.M., M.D., or Ph.D. degrees may apply for tenure-track research position associated with an institutional research program in atherosclerosis. Candidates will have the responsibility for development and supervision of a related research program with orientation to renal disease. Candidate should have knowledge and technical expertise in the fields of enzymology, lipid biochemistry, membrane biophysics, and cell biology. Current emphasis is directed toward mapping of enzymatic and mineral metabolism using various techniques including cell and tissue culture, monoclonal antibody localization of differentiation-dependent antigens, and localization of intracellular ions using ion-specific electrodes. Candidate should be able to demonstrate a strong research background and commitment to a research career. Salary dependent on background and experience. Applicants should send curriculum vitae and the names and addresses of three references to: Carol C. Cunningham, Ph.D., Professor of Biochemistry, Chairman of Search Committee, Bowman Gray School of Medicine, Wake Forest University, 300 South Hawthorne Road, Winston-Salem, NC 27103. *Wake Forest University is an Equal Opportunity Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL RESEARCH AT THE NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH (NCTR)—NCTR's research mission is to study the biological effects of potentially toxic chemicals. Doctoral degree received within last 3 years required. Stipend is \$23,000 to 28,000, depending on research area. For information and applications contact: ORAU Postgraduate Research Program at NCTR, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831; telephone 615-576-3190. *This is an Equal Opportunity Program open to U.S. citizens or PRA.*

RESEARCH ASSOCIATE/MOLECULAR BIOLOGIST. Ph.D. (or M.S. and equivalent experience) to conduct research on retroviral gene delivery and expression systems; mechanisms of steroid and peptide hormone action in vivo. Additional experience in tissue culture, immunology, or retrovirology desirable. Salary \$18,120 to \$27,720. Dr. Clague P. Hodgson, Laboratories of Molecular and Developmental Biology, OARDC, Ohio State University, Wooster, OH 44691. Telephone 216-263-3758.

RESEARCH ASSOCIATE AT POSTDOCTORAL LEVEL to work on biochemical and molecular genetics of hormones and neuropeptides in genetically hypertensive rats. Applicants must be citizens or permanent residents of United States. Starting time flexible after 1 July. Send curriculum vitae to: Dr. John Rapp, Department of Medicine, Medical College of Ohio, C.S. 10008, Toledo, Ohio 43699. *Equal Opportunity Employer, M/F.*

RESEARCH ASSOCIATE, Faculty. Position available 1 September 1986 to participate in a program of research aimed at the development and use of methods for the implantation of multiple microelectrodes for the study of the activity of many neurons in the cerebral cortex of waking behaving monkeys. In particular, the research focuses on studies of neural mechanisms of binocular vision and stereopsis in striate and prestriate visual cortex. Candidates should have an M.D. or Ph.D. degree and postdoctoral experience in neurophysiology. Applicants should send their curriculum vitae and the names and addresses of three references to: G. F. Poggio, The Philip Bard Laboratories of Neurophysiology, Department of Neuroscience, The Johns Hopkins University School of Medicine, 725 North Wolfe Street, Baltimore MD, 21205.

RESEARCH ECOLOGIST (Ecosystems), GM-14 (\$44,430 to 57,759), The Laboratory at Corvallis, Oregon, invites applicants to apply as a **plant ecologist**. The person selected for this position serves as the senior scientist responsible for managing a plant toxicology/ecology research team that performs experiments to lead to an understanding of biological risks of chemicals on terrestrial ecosystems. They will be responsible for organization of the research collation, evaluation, and extension of research results to applications which resolve problems on a national scale. Serves as project officer on cooperative agreements, interagency agreements, and research programs. Provides technical guidance and authoritative consultation to the agency and other scientists. Required application forms can be obtained during the acceptance period of 1 May 1986 to 15 May 1986 by writing or visiting: **The Office of Personnel Management, Seattle Area Office, 915 Second Avenue, Seattle, WA 98174.** *The U.S. Environmental Protection Agency is an Equal Opportunity Employer.*

TWO RESEARCH POSITIONS JUNE 1986 IN THE DEPARTMENT OF MEDICINE AND BIOCHEMISTRY to study regulation of tissue factor pathway of blood coagulation, and to investigate structure-function relationships in human factor IX using protein chemistry, monoclonal antibody, and molecular biology techniques. (i) **postdoctoral-research assistant professor.** Ph.D. in biochemistry or molecular biology with 2 to 3 years of experience in molecular cloning and sequencing. (ii) **postdoctoral-research associate.** Ph.D. in biochemistry with background in protein purification, enzyme kinetics, and peptide sequencing. Send curriculum vitae, names, and telephone numbers of two references to: S. Paul Bajaj, Ph.D., telephone: 314-577-8499, Hematology-Oncology, St. Louis University Medical School (SLUMS), 1325 South Grand Boulevard, St. Louis, MO 63104. Salary as per SLUMS guidelines. *Equal Opportunity Employer, M/F/H/V.*

POSITIONS OPEN

RESEARCH INSTRUCTOR OF MEDICINE. A non-tenure-track position to conduct individual and collaborative research in experimental and clinical cardiac electrophysiology. Position requirements include a doctoral degree in electrical engineering, computer science, or the biomedical sciences. Additionally, the applicant must have demonstrated experience and expertise in (i) mapping of electrical cardiac fields, (ii) advanced systems and applications programming, and (iii) computer interface hardware. Evidence of previous independent research is desirable. Applications must be postmarked by 2 June 1986. Applications received after that date may be considered if no qualified candidates have applied by that time. Send résumé and references to: Dr. R. L. Lux, CVRTI, Building 100, University of Utah, Salt Lake City, Utah 84112. *An Equal Employment Opportunity/Affirmative Action Employer.*

RESEARCH SCIENTIST. To conduct research in flow, acoustics, high-voltage, and pulse power systems associated with gas lasers. Requirements: Ph.D. in physics or aeronautical engineering; 6 years of postdoctoral experience in gas and excimer lasers; demonstrated background in fluid dynamics. Salary: \$50,000 per year. Send this ad and your résumé to: Job number AT3326, P.O. Box 9560, Sacramento, CA 95823-0560, not later than 19 May 1986.

RESEARCH SCIENTIST: Development and Applied Sciences Department seeking Ph.D. in immunology or biochemistry with strong record of research accomplishments in the area of cellular or molecular immunology, with emphasis on immunoregulation or immunotherapy in animal models. Familiarity with regulatory aspects of clinical trials is a plus. Applicant must be flexible, a good communicator, and eager to carry out "hands on" research. Position includes responsibility for several defined and exploratory immunotherapy programs; close coordination of research activities with primary investigators, outside contractors, and physicians. Reply to: Dr. Peter Daddona, Centocor, 244 Great Valley Parkway, Malvern, PA 19355. *An Equal Opportunity/Affirmative Action Employer.*

SENIOR RESEARCH ASSOCIATE

Protein biochemist holding Ph.D. degree and at least 2 years of postdoctoral training to be an active participant in well-developed but innovative study of biologically relevant protein-lipid interactions. Problem area deals primarily with separation, isolation and characterization of unique human liver secretory proteins having a variety of biological functions. Co-workers consist of an interactive group already of critical size for productivity. Candidates should have appropriate biochemistry, cell biology, and possibly applied immunochemistry experience. Submit complete résumé and names of three references to: G.I. Research Unit, Cleveland Clinic Foundation Research Institute, 9500 Euclid Avenue, Cleveland, OH 44106. *An Equal Opportunity Employer.*

SYSTEMS ECOLOGIST

The Chesapeake Biological Laboratory of the University of Maryland's Center for Environmental and Estuarine Studies invites applications for a partially-supported, non-tenure-track senior faculty position in systems ecology. Extensive experience and proven research ability in the collection, synthesis, and interpretation of data in estuarine ecosystem energy flow networks is an essential requirement. Send résumé, a statement of research interests, and the names of at least five references to: Dr. Robert E. Ulanowicz, Chair, Search Committee, Chesapeake Biological Laboratory, P.O. Box 38, Solomons, MD 20688. Applications received before 31 May 1986 will be assured consideration. *The University is an Affirmative Action/Equal Opportunity Employer.*

TUMOR CELL BIOLOGISTS:

Laboratory director, Ph.D. Scientists and technicians—need extensive knowledge of tumor cell biology and tumor immunology, to establish, propagate, and evaluate primary human tumor cell lines. Responsibilities will include involvement with monoclonal antibodies, lymphokines, drugs and toxins, flowcytometry, and nude mice. Excellent opportunity for advancement with rapidly expanding company providing new biological approaches to the treatment of cancer. Contact: Robert K. Oldham, M.D., Biotherapeutics Inc., 400 Eddy Lane, Franklin, TN 37064-2917. Telephone: 615-794-4700.

Postdoctoral Positions In Male Reproductive Biology

Postdoctoral positions are available to study molecular and cellular aspects of male reproductive biology at the Worcester Foundation for Experimental Biology. Faculty working in this area include:

- Grant Fairbanks** — Mechanism of sperm plasma membrane modification during epididymal maturation.
- John Hildebrandt** — Characterization of hormone-regulated GTP binding proteins in sperm and testis.
- Daniel Kilpatrick** — Gene expression and function of opioid peptides and other peptide factors within male and female reproductive tissues.
- John McCracken** — Vasocystostomy and other surgical models for male fertility studies.
- Clare O'Connor** — Molecular regulation and physiological significance of protein methylation reactions in sperm development.
- George Witman** — Control of sperm flagellar motility during maturation and capacitation; phosphorylation of sperm flagellar proteins.
- David Wolf** — Diffusion of sperm membrane components and control of membrane regionalization during spermatogenesis, maturation, and capacitation.
- Carol Ziomek** — Membrane changes associated with fertilization and cleavage in preimplantation mouse embryos.

The Worcester Foundation is a private, nonprofit biomedical research institute located on a wooded, 110 acre campus 40 miles west of Boston. The Foundation offers excellent facilities, competitive salaries, and a stimulating research environment. **Please send curriculum vitae and names of three references to the faculty member of interest, C/O Male Reproductive Biology Program, Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545.**



WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY

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Pharmacologist

At Syntex, our research work focuses on a dozen therapeutic areas, including cardiovascular and gastrointestinal medicine, virology, immunology and cancer diagnosis and treatment — providing high quality health care and medical diagnostic products worldwide. At the same time, we've developed a premier working environment based on a strong, positive relationship between management and staff.

We're currently seeking an experienced Pharmacologist to assume leadership responsibilities as a Staff Researcher in the development of new drugs for peptic ulcer disease and for the treatment of ulcerative colitis. You must have a PhD in Pharmacology, Biology or Physiology and 2-6 years' experience in gastrointestinal research; industry experience is preferred. Familiarity with screening procedures in advanced animal models of these diseases is required as well as a strong basic research background and publications list. Research experience in isolated tissue and cell work involving the GI tract is essential as is excellent manual dexterity.



We offer nationally competitive salaries and a comprehensive benefits package. Please send your resume with salary history to: Syntex, Professional Employment, Dept. PS/S, 3401 Hillview Avenue, Palo Alto, CA 94304. We are an equal opportunity employer.

Expect more from Syntex.

POSITIONS OPEN

TOXICOLOGISTS (Two): The Bureau of Toxic Substance Information, under the Division of Health Hazards Control in the Virginia Department of Health, is seeking applications from individuals holding advanced degrees, preferably a Ph.D. in toxicology, or chemical toxicology, biochemistry, industrial hygiene, investigative toxicology, pharmacology and/or related biological or chemical specialties. Equivalent knowledge skills and abilities may substitute for the above.

Position number 4857, is for a **Risk assessment toxicologist** with expertise, experience, or interest in computer-developed risk analysis/assessment. Duties involve written and oral reports and health hazard reviews, as well as toxicological evaluations based on submitted data and recent literature.

Position number 4856, is for an **Investigative toxicologist/industrial hygienist** with expertise, experience, or interests relating to industrial hygiene, chemical toxicology, analytical toxicology, pharmacology, and computer sciences. Duties will include field investigations, sample collection, data collection and analysis, and written or oral health hazard appraisals.

Candidates for these career positions (\$27,352 to \$37,361) should request state application number DPT-10012 and return it completed, (curriculum vitae or résumé helpful), before 30 May 1986 to: **VA Department of Health, Room 110, James Madison Building, 109 Governor Street, Richmond, VA 23219; telephone: 804-786-3309.**

Equal Opportunity Employer

VASCULAR PHYSIOLOGIST—RESEARCH ASSISTANT PROFESSOR. Position to study ion transport changes associated with hypertension. Requires Ph.D., 3 years of postdoctoral training, experience with radioisotope methods, hypertensive models, and grant writing. Send curriculum vitae and names of three references by 1 June 1986 to: **Allan W. Jones, Ph.D., Professor and Chairman, Department of Physiology, University of Missouri, Columbia, MO 65212.** *Equal Opportunity/Affirmative Action Employer.*

X-RAY LABORATORY SUPERVISOR—Facilities: Two CAD4 diffractometers, PDP11/34, PDP11/44, and mainframe IBM 3081 computers. Computer programs: SDP on PDP11, SHELX, MULTAN, and ORTEP on IBM. Cambridge Crystallographic Data Base on IBM. The successful applicant will be expected to hold a Ph.D. and should have several years of experience in single crystal structure solution. The applicant will be expected to maintain and improve the crystallographic hardware and software capabilities of the laboratory, as well as operate the diffractometers. The duties will also include instruction of students on the use of the facility. Experience with low temperature x-ray data collection (and study of electron density) required. The position carries the academic rank of lecturer in chemistry and some undergraduate teaching will be required. Reply to: **Chairman of Search Committee, X-Ray Laboratory Supervisor, The Pennsylvania State University, 152 Davey Laboratory, Box 3, University Park, PA 16802.** Include detailed curriculum vitae, statement of research interests, and three letters of reference. Deadline for receipt of applications is 16 May 1986. *An Equal Opportunity/Affirmative Action Employer.*

ANNOUNCEMENTS

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For information on research allocations write:

**National Center for Supercomputing
Cornell Theory Center, 265 Olin Hall,
Cornell University,
Ithaca, New York 14853-5201**

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28 July through 15 August 1986

Announcing the 1986 Supercomputer Summer Institute at Cornell's National Computing Center, The Theory Center. Telephone Jan at 607-255-8686 for an application. Application deadline imminent.

CORNELL THEORY CENTER

TRAINING PROGRAM

AGING BASIC RESEARCH TRAINING PROGRAM

Predoctoral and postdoctoral positions are open for qualified applicants in a National Institutes of Aging supported training program. A faculty interested in aspects of aging as related to extracellular matrix (from skin, muscle, and cartilage) and neuronal cell structure and function act as mentors. Predoctoral applicants will be admitted through Ph.D. granting departments in the medical or engineering schools, while postdoctoral applicants can obtain positions in either clinical or basic science departments. For more information, send your curriculum vitae, three letters of recommendation, and appropriate transcripts to: **Dr. Arnold I. Caplan, Biology Department, Case Western Reserve University, Cleveland, Ohio 44106.** *An Equal Opportunity Employer.*

POSTDOCTORAL TRAINING PROGRAM IN IMMUNOLOGY

Postdoctoral training in immunology is offered at Duke University Medical Center. Fellowships in laboratories conducting research in molecular genetics, molecular immunology, immunogenetics, developmental biology, cellular immunology, immunochemistry, transplantation and tumor immunology, immunopathology, and allergy and autoimmune disease are available. Fellowships are open to American citizens and foreign nationals with permanent resident visas holding the Ph.D., M.D., or equivalent degrees who have had less than 3 years of postdoctoral experience.

Send letters of inquiry to: **Dr. Frances E. Ward, Department of Microbiology and Immunology, Box 3010, Duke University Medical Center, Durham, North Carolina, 27710.** *An Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS

Departments of
Cellular and Developmental Biology
Organismic and Evolutionary Biology
Harvard University

A limited number of postdoctoral research positions become available from time to time. Appointments are funded through research grants awarded to faculty members and are ordinarily for 1 year, sometimes renewable. For a list of faculty members who have postdoctoral positions available, write to the respective departmental office: **Harvard University, 16 Divinity Avenue, Cambridge, MA 02138.** (Do not send applications.)

Harvard University is an Equal Opportunity/Affirmative Action Employer.

A NORMAN AND ROSITA WINSTON FOUNDATION FELLOWSHIP IN BIOCHEMICAL TOXICOLOGY AND PHARMACOLOGY. Seeking qualified candidate to investigate biochemical and physiological mechanisms of toxicity of polychlorinated biphenyls and dioxins. Experience in methodology of arachidonic acid metabolism with HPLC and/or cardiac physiology required. Two-year fellowship with competitive salary. Send curriculum vitae to: **Dr. Arleen Rifkin, Department of Pharmacology, Cornell University Medical College, 1300 York Avenue, New York, NY 10021.**

POSTDOCTORAL FELLOWSHIP available for work on the purification and study of the molecular mechanism of action of a microsomal, membrane-bound enzyme. Experience in handling these types of proteins preferred. Immunochemical approaches also will be investigated. Send résumé and names of two references to: **Professor Richard B. Silverman, Department of Chemistry, Northwestern University, Evanston, IL 60201.**

POSTDOCTORAL FELLOWSHIP. Available for 2 years to study cellular regulation of transport in the kidney using cultured cells and isolated membrane vesicles. NIH funded project with competitive salary. Send curriculum vitae and names of two references to: **Dr. Stephen Kempson, Department of Physiology and Biophysics, Indiana University School of Medicine, 635 Barnhill Drive, Indianapolis, IN 46223.** *An Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS LIFE SCIENCES RESEARCH FOUNDATION (LSRF)

The LSRF solicits monies from industry, foundations, and individuals to support postdoctoral fellowships in the life sciences. Active solicitation of funds continues, for which we need the assistance of all concerned individuals.

Eligibility: Three-year fellowships will be awarded on a competitive basis to graduates with M.D. or Ph.D. degrees in any field of the life sciences. U.S. citizens are eligible to apply with no restrictions on the laboratory of their choice. Foreign applicants are eligible for study in U.S. laboratories. Only research in nonprofit institutions will be supported. Those who are changing their field of research by way of a second postdoctoral or as an independent research associate are encouraged to apply.

Timetable: Application deadline is 1 October 1986, for award as early as summer 1987. Awards will be announced by March 1987.

Address inquiries to: LSRF, 115 West University Parkway, Baltimore, MD 21210.

POSTDOCTORAL FELLOWSHIPS NEUROBIOLOGY

Postdoctoral fellowships are available as part of an (NINCDS)-funded program project to examine the neurobiological bases of recovery from injury to monoaminergic systems. Salaries range from \$16,000 to \$23,000, commensurate with experience. Candidates may apply to work with project directors in the following areas of interest: electrophysiological studies in basal ganglia (**T. Berger**), in vivo and in vitro intracellular recording in substantia nigra and striatum (**A. Grace**), molecular biological studies of genes regulating catecholamine biosynthesis (**B. Kaplan**), developmental studies of monoamine systems (**R. Lund**), homeostatic effects of damage to peripheral and central catecholaminergic systems (**E. Stricker**), and in vitro neurochemical studies of striatal function (**M. Zigmond**). Please send a brief description of research interests, curriculum vitae, and three letters of recommendation to:

**Michael J. Zigmond, Ph.D.
Center for Neuroscience
University of Pittsburgh
570 Crawford Hall
Pittsburgh, PA 15260**

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

PEPTIDES: POSTDOCTORAL FELLOWSHIP

For advanced training and research with oligopeptides: purification, immunology, structural characterization, computerized 3-D modeling, and analyses of interactions with neuronal receptors. Excellent opportunities for close collaboration and specialized training with California Biotechnology Firms participating in this project. Fellowships run for 2 years, with competitive stipends; earliest start 1 July 1986. Applicants must have demonstrable experience in peptide purification, characterization, and/or immunology. Send curriculum vitae, copies of relevant publications, and the names and telephone numbers of three current references to: **Professor Daniel E. Morse, Biochemistry and Molecular Biology Section, Department of Biological Sciences, University of California, Santa Barbara, CA 93106.**

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

IMPERIAL CANCER RESEARCH FUND Research Fellowship

A postdoctoral fellowship is available to work on gene expression in mammalian cells. The DNA sequences involved in gene expression and the mechanisms involved in their control will be investigated. Candidates should have experience in molecular biology and recombinant DNA technology.

The award will be tenable for 3 years on the salary range £10,642 to £13,018. Entry depending upon qualifications and experience.

For further details, contact: **Dr. M. Fried on 01:242:0200; extension 2406.**

Please send full curriculum vitae and names of three referees to: **The Personnel Officer, Imperial Cancer Research Fund, Lincoln's Inn Fields, London, England, WC2A 3PX,** quoting reference 57/86.

Invitron Corporation, a leader in the manufacture of biomolecules from large-scale mammalian cell culture is looking for a highly qualified **PROTEIN BIOCHEMIST (BS/MS)** to assist in the start-up and day to day operation of a protein sequencing lab in our Redwood City, California research facility. Experience in the operation of gas phase protein sequencer is a must. Knowledge of state-of-the-art sample preparation techniques including micro-bore HPLC and electrophoretic transfers is highly desirable.

We offer excellent compensation and benefits and opportunity for personal growth. Qualified candidates should send a detailed c.v. including names of three references to:

INVITRON CORPORATION
8000 Maryland Avenue, #860
Clayton, Missouri 63105
Attention: Manager, Human Resources

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POSTDOCTORAL FELLOW

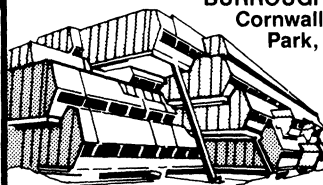
(Electrophysiology)

BURROUGHS WELLCOME CO., an innovative pharmaceutical company in Research Triangle Park, NC, and having close research contact with three major universities is seeking a graduate of neuroscience to conduct research in brain slices within the Department of Pharmacology. Experience in intra- and extracellular unit recording with microelectrodes is desirable.

The successful candidate will have the opportunity to pursue the mechanism of CNS active agents as they influence monoamine, amino acid, or peptide neural systems at the cellular level. This position should allow an individual to have a productive one to two years while gaining a first hand knowledge of industry as a potential career. Salary: \$2,078/month.

BURROUGHS WELLCOME CO. offers a comprehensive company-paid benefit package and a stimulating environment for scientific research. Qualified minority, female, veteran and handicapped individuals are encouraged to apply. Interested candidates should submit curriculum vitae to:

Employment Supervisor, Position #1470
BURROUGHS WELLCOME CO., 3030
Cornwallis Road, Research Triangle
Park, NC 27709.



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International Clinical Research Associate

Assume a vital role in endocrinology R&D.

Wyeth International, one of the world's most respected pharmaceutical companies, is firmly committed to research and product development. At present, we're intensifying our efforts in clinical endocrinology at our Radnor, PA facility. To meet our goals, we seek a self-motivated professional who'd like the challenge of supporting all aspects of clinical investigation and drug development. This position is a new addition to staff.

Your multifaceted role involves interaction, coordination and liaison functions in support of the generation of clinical data bases. You will assist Clinical Monitor and/or International Project Director, in writing clinical protocols, designing/editing case report forms assuring protocol requirements, transmitting data to biostatistics and tracking timely delivery of statistical analysis. We look to you to maintain updated progress of clinical trials and to review current scientific literature related to clinical projects. Involves about 20% travel to foreign investigational sites.

Position requires experience in pharmaceutical clinical endocrine research: a Master's degree in Endocrine Physiology/Pharmacology with 3-4 years

experience, or a Bachelor's degree in Science with over 5 years experience in clinical endocrine research. Experience must include familiarity with scientific design of protocols and development of clinical case report forms. Clinical data processing experience and CRA experience would be a definite asset. Excellent organizational, interpersonal and communication skills are a prerequisite.

If you're ready for more professional recognition, explore your advantages with Wyeth. We offer excellent salaries, extensive company benefits and a distinctive environment on our 20-acre Corporate campus in Radnor, an attractive community on Philadelphia's prestigious Main Line. To find out more, please send your resume and salary requirements to: **Position # WL5023GP, Wyeth International, Ltd., P.O. Box 8616, Philadelphia, PA 19101. Equal Opportunity Employer. M/F/H/V responses encouraged.**

Wyeth International, Ltd.



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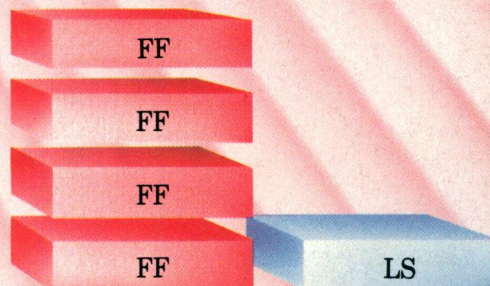
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