

not have a mass of 30 eV, there is no evidence that ν_μ or ν_τ might not have such a mass. As a result of the Big Bang there are about 150 of each type of neutrino per cubic centimeter throughout the universe, and if one type has a mass as large as about 30 eV, neutrinos totally dominate the energy density of the universe. The first section of this volume deals with cosmological issues related to neutrino mass. There exists a variety of evidence for dark matter throughout the universe, and massive neutrinos remain the least exotic possibility. Gary Steigman presents a general review of dark matter candidates. David Schramm's contribution, entitled "The resurrection of neutrinos as dark matter," suggests methods of avoiding inconsistencies between massive neutrinos and theories of galaxy formation.

There are theoretical reasons to believe that both ν_e and ν_μ may have masses below 1 eV. In this case the best hope to detect neutrino mass is through neutrino oscillations. If ν_e and ν_μ are mixtures of nondegenerate mass eigenstates, an original ν_e can transform (oscillate) into a ν_μ as it moves through the vacuum. Ten of the papers present results of laboratory experiments on neutrino oscillations. No clear-cut evidence for oscillations exists, although the results from the Bugey reactor first reported in 1984 and discussed here once again by Jacques Bouchez are best-fit, assuming oscillations. However, results from the Gosgen reactor reported by Jean-Luc Vuilleumier do not support the Bugey results.

A very interesting development of the last year was the theoretical observation that, as a result of the index of refraction of solar matter, neutrino oscillations may be enhanced for ν_e emerging from the solar interior. This provides a new explanation of the low neutrino flux from the sun observed by Ray Davis over the last 20 years. Neutrino masses of 10^{-2} eV and even less and mixing angles as small as 1° are sufficient to produce the result. The paper by S. P. Mikheyev and A. Yu Smirnov, the originators of this idea, provides an easily accessible version of their work. The basic idea is christened in this volume by Peter Rosen as the Mikheyev-Smirnov-Wolfenstein (MSW) effect and further elaborated by Michel Spiro and Albert Messiah. In order to test this idea as well as alternative explanations of the solar neutrino problem, new experiments are needed. Among those planned are the gallium radiochemical experiment discussed by Till Kirsten and two electronic experiments, a liquid argon detector described by Milla Baldo-Ceolin and a D_2O detector described by John Simpson.

The Moriond workshops in the French Alps bring together about 100 physicists in

a specialized area, most of whom give short presentations. As a result this book contains over 60 papers of uneven quality; these are unified by two excellent summaries by Ettore Fiorini and Gary Steigman. The workshop took place at a favorable time, allowing the first presentation of new results on tritium decay and on the MSW explanation of the solar neutrino problem. All the latest information and controversies are well represented here. For some time to come this volume should provide a good source on the subject of neutrino mass.

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Books Received

Amazonian Rain Forests. Ecosystem Disturbance and Recovery. Case Studies of Ecosystem Dynamics Under a Spectrum of Land Use-Intensities. Carl F. Jordan, Ed. Springer-Verlag, New York, 1987. x, 133 pp., illus. \$45. Ecological Studies, vol. 60.

Ambroise Paré. Chirurgien de Quatre Rois de France. Paule Dumaitre. Perrin, Paris, 1986. iv, 410 pp. + plates. Paper, F 180.

American Chemical Society Directory of Graduate Research 1985. Committee on Professional Training. American Chemical Society, Washington, DC, 1985. xxiv, 1260 pp. \$46.

The Analysis of Starlight. One Hundred and Fifty Years of Astronomical Spectroscopy. J. B. Hearnshaw. Cambridge University Press, New York, 1986. xvi, 531 pp., illus. \$79.50.

Analytical Chemistry in the Exploration, Mining and Processing of Materials. L. R. P. Butler *et al.*, Eds. Blackwell Scientific, Palo Alto, CA, 1986. viii, 254 pp., illus. \$30. International Union of Pure and Applied Chemistry. From a symposium, Pretoria, South Africa, April 1985.

The Biology of Marine Fungi. S. T. Moss, Ed. Cambridge University Press, New York, 1986. xii, 382 pp., illus. \$49.50. Based on a symposium, Portsmouth, U.K., Aug. 1985.

Biotechnology. H.-J. Rehm and G. Reed, Eds. Vol. 4. Microbial Products II. H. Pape and H.-J. Rehm, Eds. VCH, New York, 1986. xiv, 673 pp., illus. \$298; by subscription, \$198.

The Body. Anthony Smith. Penguin, New York, 1986. x, 548 pp. Paper, \$7.95. Reprint, 1985 edition.

The Cambridge Photographic Atlas of the Planets. Geoffrey Briggs and Frederic Taylor. Cambridge University Press, New York, 1986. 256 pp. Paper, \$14.95. Augmented reprint, 1982 edition.

Cancer Drug Resistance. Thomas C. Hall, Ed. Liss, New York, 1986. xviii, 235 pp., illus. \$48. Progress in Clinical and Biological Research, vol. 223. From a workshop, Kyoto, Japan, June 1985.

Cardiac Glycosides 1785-1985. Biochemistry-Pharmacology-Clinical Relevance. E. Erdmann, K. Greff, and J. C. Skou, Eds. Steinkopff, Darmstadt, F.R.G., and Springer-Verlag, New York, 1986. xviii, 552 pp., illus. \$50. Boehringer Mannheim International Symposia. Based on a symposium.

Drying of Solids. Recent International Developments. Arun S. Mujumdar, Ed. Wiley Eastern, New Delhi, 1986. xii, 342 pp., illus. \$39.95.

Dynamical Spacetimes and Numerical Relativity. Joan M. Centrella, Ed. Cambridge University Press, New York, 1986. x, 465 pp., illus. \$49.50. From a workshop, Philadelphia, Oct. 1985.

Dynamics of Marine Fish Populations. Brian J. Rothschild. Harvard University Press, Cambridge, MA, 1986. xvi, 277 pp., illus. \$37.50.

Dynamics of Stress. Physiological, Psychological, and Social Perspectives. Mortimer H. Appley and Richard Trumbull, Eds. Plenum, New York, 1986. xviii, 342 pp., illus. \$39.50. The Plenum Series on Stress and Coping. Based on a conference, Luxembourg, April 1984.

Leukotrienes and Prostanoids in Health and Disease. Uriel Zor, Zvi Naor, and Fortune Kohen, Eds. Raven, New York, 1986. xviii, 405 pp., illus. \$38.50. Advances in Prostaglandin, Thromboxane, and Leukotriene Research, vol. 16. Based on a conference, Tel-Aviv and Rehovot, Israel, Oct. 1985.

Masks of the Universe. Edward Harrison. Collier Books (Macmillan), New York, 1986. x, 306 pp., illus. Paper, \$9.95. Reprint, 1985 edition.

Mathematical and Numerical Techniques in Physical Geodesy. Hans Sünkel, Ed. Springer-Verlag, New York, 1986. x, 548 pp., illus. Paper, \$49. Lecture Notes in Earth Sciences, vol. 7. From a summer school, Admont, Austria, Aug. 1986.

Mathematical Structures for Computer Science. Judith L. Gersting. 2nd ed. Freeman, New York, 1987. xvi, 618 pp., illus. \$35.95. A Series of Books in the Mathematical Sciences.

Nucleocytoplasmic Transport. R. Peters and M. Trendelenburg, Eds. Springer-Verlag, New York, 1986. x, 300 pp., illus. \$55. From a workshop, Heidelberg, F.R.G.

Oncogenes and Growth Control. Patricia Kahn and Thomas Graf, Eds. Springer-Verlag, New York, 1986. xxiv, 369 pp., illus. \$69.50.

Ontogeny of Olfaction. Principles of Olfactory Maturation in Vertebrates. Winrich Breipohl, Ed. Springer-Verlag, New York, 1986. xii, 268 pp., illus. \$65.50.

Optical Spectroscopy of Glasses. I. Zschokke, Ed. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). x, 272 pp., illus. \$79. Physics and Chemistry of Materials with Low-Dimensional Structures, Series C, Molecular Structures.

Palaeoecology and Biostratigraphy of Graptolites. C. P. Huges and R. B. Rickards, Eds. With A. J. Chapman. Blackwell Scientific, Palo Alto, CA, 1986. x, 277 pp., illus. \$75. Geological Society Special Publication no. 20. From a conference, Cambridge, U.K., Sept. 1981.

Psychologie et Santé. D. Giovannini *et al.* Mardaga, Brussels, 1986. 234 pp., illus. Paper, F 197. Psychologie et Sciences Humaines. Translated from the Italian by Claudio Rongione and Tiziana Monacelli.

The Psychology of Touch. Stephen Thayer, Ed. Human Sciences Press, New York, 1986. 80 pp. Paper, \$9.95. *Journal of Nonverbal Behavior*, vol. 10, no. 1.

Public Appearances/Private Realities. The Psychology of Self-Monitoring. Mark Snyder. Freeman, New York, 1986. x, 266 pp., illus. \$24.95; paper, \$13.95. A Series of Books in Psychology.

Quantitative Risk Assessment for Environmental and Occupational Health. W. H. Hallenbeck and K. M. Cunningham. Lewis, Chelsea, MI, 1986. xvi, 199 pp. \$35.95.

Quantum Chaos and Statistical Nuclear Physics. T. H. Seligman and H. Nishioka, Eds. Springer-Verlag, New York, 1986. x, 382 pp., illus. \$36.90. Lecture Notes in Physics, 263. From a conference, Cuernavaca, México, Jan. 1986.

Rhythm in Psychological, Linguistic and Musical Processes. James R. Evans and Manfred Clynes, Eds. Thomas, Springfield, IL, 1986. x, 291 pp., illus. \$38.25.

Risking the Future. Adolescent Sexuality, Pregnancy, and Childbearing. Vol. 1. Cheryl D. Hayes, Ed. Panel on Adolescent Pregnancy and Childbearing, National Research Council. National Academy Press, Washington, DC, 1987. xiv, 337 pp., illus. Paper, \$21.95.

The Role of Selenium in Nutrition. Gerald F. Combs, Jr., and Stephanie B. Combs. Academic Press, Orlando, FL, 1986. xii, 532 pp., illus. \$79.

Rotations, Quaternions, and Double Groups. Simon L. Altmann. Clarendon (Oxford University Press), New York, 1986. xiv, 317 pp., illus. \$49. Oxford Science Publications.

Safety and Health Aspects of Organic Solvents. Vesa Riihimäki and Ulf Ulviusson, Eds. Liss, New York, 1986. xii, 335 pp., illus. \$64. Progress in Clinical and Biological Research, vol. 220. From a course, Espoo, Finland, April 1985.

Safety Measures for Use in Outbreaks of Communicable Disease. Donald J. Dunsmore. World Health Organization, Geneva, 1986 (U.S. distributor, WHO Publications Centre, Albany, NY). viii, 99 pp., illus. Paper, \$10.20.

Sampling Theory for Forest Inventory. A Teach-Yourself Course. Pieter G. de Vries. Springer-Verlag, New York, 1986. x, 399 pp., illus. Paper, \$35.

Searching, Teaching, Healing. American Indians and Alaskan Natives in Biomedical Research Careers. Edwin W. Haller and Ruth A. Myers, Eds. Futura Media Services, Mount Kisco, NY, 1986. xxviii, 148 pp., illus. Paper, \$9.50. From a conference, Duluth, MN, Aug. 1984.

Products & Materials

DNA Sequencing System

The Model 370A DNA Sequencing System automates analysis of products from dideoxy sequencing reactions. The system is composed of an electrophoresis detection unit and a data station that includes hardware and software for data display and interpretation. A different fluorescent dye labels each of the four bases, allowing sequences to be determined from a single lane rather than the four lanes required by radioactive methods. Initial data are available within 1 to 2 hours after gel loading. Wedge or gradient gels are not required. As many as 16 templates or clones may be simultaneously sequenced in 8 to 10 hours on a single gel. Applied Biosystems. Circle 563.

Genetic Engineering Software

StrateGene is a computer software system that uses artificial intelligence to help molecular biologists manage and retrieve information about nucleic acids. Its database contains information on plasmids that are commercially available and those that are most commonly used. Each molecule is characterized by its size, lineage, history, gene regions, restriction map, nucleotide sequence, and host compatibility, among other features. Researchers may create their own individual libraries. Another element of the system is a method for rapid location of DNA molecules with specified properties. The system provides interactive methods for simulating complex cloning experiments. StrateGene operates on Xerox 1185 and 1186 computers. IntelliGenetics. Circle 575.

Gas Flowmeter

The Digital Flowmeter is a volumetric gas flowmeter for measuring carrier gases in gas chromatography. It combines a bubble meter with a microprocessor and a liquid crystal display. The flow range is from 0.5 to 500 ml/min, with an accuracy of $\pm 3\%$. With a 9-V battery, the flowmeter becomes port-

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Automatic Cryoscope

The Cryette WR measures the freezing point of solutions. Freezing points between -6° and 26°C may be determined with a precision of 0.001°C in 2 minutes with two



2.5-ml samples. The samples may be completely recovered after the freezing point is determined. The Cryette WR can also measure molecular weight of hydrocarbon fractions and determine solution concentrations. Precision Systems. Circle 546.

Ready-to-Use Acrylamide Solution

AcrylaGel is a ready-to-use, 30% acrylamide solution in distilled, deionized water. The user avoids exposure to the neurotoxins given off by solid acrylamide. The AcrylaGel solution is stabilized by an incorporated gaseous inhibitor that is completely removed upon deaeration of the gel-casting solution. The inhibitor prevents initiation and self-polymerization of the acrylamide and thus increases its purity. Also, the acrylic acid content is almost zero, and AcrylaGel's distilled, deionized water eliminates the possibility of enzyme denaturation by trace metals. National Diagnostics. Circle 577.

Elemental Analysis Software

EAGER 100 is a software package for data handling and interfacing with the Carlo Erba line of Elemental Analysis instruments. Menus guide the user through the specific functions. The graphic display illustrates the chromatogram in real time, and raw data can be stored in memory or on disk. Automatic calculations that may be performed after

each experiment include linear regression, blank evaluation (subtraction), carbon:hydrogen and carbon:nitrogen ratios, protein factor, and heat values for solid and liquid samples. Any balance with RS-232 capabilities may be directly connected to EAGER for automatic weight entry. The software operates on the IBM XT and compatibles. Haake Buchler Instruments. Circle 578.

Basic Balances

The J Series comprises one analytical and seven precision electronic balances without expensive application features. The analytical balance has a 110-g capacity and a readability to 0.0001 g. The precision balances have capacities from 310 to 6000 g and readabilities from 0.001 to 0.1 g. All eight balances have a footprint of 19.7 by 31.8 cm. Mettler Instrument. Circle 580.

Color Monitor for Graphics Applications

The 7250 is a high-resolution, 19-inch color monitor. It is fully compatible with all major personal computer graphics standards and with current graphics boards, including IBM's Monochrome Display Adapter, Color Graphics Adapter, Enhanced Graphics Adapter, and Professional Graphics Adapter, in both high-resolution graphics and emulation modes. The 7250 has a high-contrast, antiglare 0.31-mm dot-pitch precision in-line (PIL) cathode-ray tube. Horizontal scan rates vary from 15.75 to 37 kHz, and the video bandwidth is 40 MHz. Resolution may be as high as 1024 by 1024 pixels. Conrac Display Products Group. Circle 581.

Literature

Isolines is a newsletter that highlights products and product applications for biomedical laboratories. Isolab. Circle 566.

1987-88 Chemical Catalog contains 592 pages of chemicals, along with storage and shipping information, atomic absorption solutions, and measurement conversion tables. Spectrum Chemical Manufacturing. Circle 567.

Rent the Instrument You Need is a four-page brochure on the financial benefits of renting instruments. United States Analytical Instruments. Circle 568.

Micro Organic Chemical Kits, a four-page brochure, describes experimentation kits with small reaction vessels. Corning Glass Works. Circle 570.

Personnel Placement

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

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POSITIONS WANTED

chemist, Ph.D. 1980, experience in lipid analysis, sphingolipid metabolism, ligand-binding assays, only interested in effects of disease and diet on signal transduction mechanisms, seeks research position, preferably in the Philadelphia-New Jersey-New York City area. Available fall 1987. Box 48, **SCIENCE**

4/17, 24; 5/1

chemist, Ph.D. Innovative researcher interested in drug and vaccine discovery and development for infectious diseases. Research and teaching experience in industry and university. Extensive bibliography. Seeks research/teaching position in industry/university. Box 49, **SCIENCE**.

4/17, 24

chemist, Ph.D. Research experience: cell membrane proteins, antibody preparation, immunoassay development, Western blotting, cell culture, mutant isolation, metabolism, oxidation-reduction and ATPase enzymes. Publications. Johns Hopkins training. Good communication, creative, and analytical skills. Seeks leadership position cutting-edge environment. New Jersey area, preferred. Box 50, **SCIENCE**

X

engineer/Physiologist, Ph.D. Publications, patents, 10 years academic, industrial, government biomedical R&D experience, including basic and applied research, clinical investigation, teaching, product development, administration, patent litigation, and contract management. Desire free-lance professional assignments, long-term. P.O. Box 9106, La Jolla, CA 92038. Telephone: 619-456-2565.

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POSITIONS WANTED

Polymer Professor. Highest academic qualifications and industrial experience seeks temporary post in Americas. Patents, books, and 150 research papers on polymers. U.K. citizen. Replies to: 2 Moorfield, Newcastle on Tyne, NE2 3NL ENGLAND. X

Renal physiologist/toxicologist. Ph.D. 1977. Eighteen years of experience in research in membrane physiology and cell metabolism. Three years of experience in teaching biological sciences. Broad biology background. Seeks challenging research/teaching/consulting position in university/hospital/industry. Box 45, **SCIENCE**. X

POSITIONS OPEN

ANATOMY UNIVERSITY OF SASKATCHEWAN DEPARTMENT OF ANATOMY

The Department of Anatomy, University of Saskatchewan, College of Medicine, invites applications for tenure-track position at the **ASSISTANT PROFESSOR** level. Applicants should have experience in teaching developmental biology to medical and science students as well as a teratology and possibly neuroanatomy and/or gross anatomy. Background in molecular biology is desirable. Applicants should have proven research background and a strong research program. Application, including curriculum vitae, names of three referees, and an outline of proposed research should be submitted to: **Dr. G. D. Burkholder, Department of Anatomy, College of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0.** In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

ANIMAL/CELLULAR PHYSIOLOGIST

Seek a tenure-track assistant or associate professor to develop a vigorous research program in animal physiology at the cellular level. Appropriate areas would be, but are not limited to, mechanisms of hormone action, receptor physiology or membrane physiology, and biochemistry. Teaching responsibility will be in a graduate-level course in systemic physiology of domestic animals. Successful candidates will have a Ph.D. in cellular physiology and biochemistry with a strong background in systemic physiology and a desire to develop superior teaching and research programs. Postdoctoral experience preferred, as is teaching experience, in systemic physiology. Expected to develop extramural funding for research to supplement appropriated support.

Submit a detailed résumé of education (including transcripts), experience, qualifications, and publications and a list of three references by 15 May 1987 to: **Dr. Elton D. Aberle, Head, Animal Science Department, University of Nebraska-Lincoln, Lincoln, NE 68583-0908.** Affirmative Action/Equal Opportunity Employer.

ASSISTANT OR ASSOCIATE PROFESSOR OF PLANT PATHOLOGY AND MICROBIOLOGY. Texas A&M University. A permanent, 100% research position with an opportunity to teach and supervise graduate students is available 1 September 1987. Qualifications include a Ph.D. in plant pathology or related field and demonstrated ability to do independent and cooperative research. The incumbent will participate in an interdisciplinary small grains program directed toward implementing disease management strategies based on plant and pathogen population dynamics. Research activities will include deployment of disease resistance germplasm; determination and flow of virulence factors; influence of resistance, pesticides, and environment on pathogen populations; and quantitative epidemiology. Applicants please send letter of application, detailed résumé, transcripts, selected reprints, statement of professional goals, and names of three references by 15 June 1987 to:

Dr. J. Artie Browning, Head
Department of Plant Pathology and Microbiology
Texas A&M University
College Station, TX 77843-2132

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

POSITIONS OPEN

ASSISTANT DIRECTOR OF ANIMAL CARE, BROWN UNIVERSITY. The Division of Biology and Medicine is seeking applications for the position of Assistant Director of Animal Care to begin as early as August 1987. The individual will assist the Director of Animal Care to provide veterinary management of animal care facilities in the University and in hospitals affiliated with the Brown Medical Program. In addition he/she will review animal research grant proposals, advise investigators and the Animal Research Committees, provide surgical support to investigators as needed, and supervise animal care personnel. Candidates must hold the D.V.M., V.M.D., or equivalent degree from an accredited school of veterinary medicine and have completed a residency in surgery or laboratory animal medicine or have equivalent experience. The position offers potential for collaborative or individual research and for teaching activities. Applicants should submit curriculum vitae and have three letters of reference sent to: **Dr. Jean Marshall, Box G, Brown University, Providence, RI 02912** by 15 June 1987. Brown University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT MEDICAL RESEARCH PROFESSOR

The Division of Genetics and Metabolism is seeking a biomedical mass spectroscopist to enhance an active and expanding research program. The initial appointment will be a nontenured, Assistant Medical Research Professorship. Responsibilities will include operation and maintenance of a VG 70-S mass spectrometer, participation in collaborative clinical and biochemical research, maintaining and expanding a service to other departments, and development of an independent research program. This is an excellent opportunity for the successful candidate, who is expected to hold a Ph.D. degree in chemistry or biochemistry and to have had at least 3 years of previous training and experience in mass spectrometry, preferably with high-resolution instrumentation. Interested candidates should apply in writing to: **Dr. D.S. Millington, Box 3028, Duke University Medical Center, Durham, NC 27710** before 8 May 1987. Affirmative Action/Equal Opportunity Employer.

ASSISTANT OR ASSOCIATE PROFESSOR OF pharmacology and toxicology. Tenure-track position. Applicants should possess an M.D. or a Ph.D. in pharmacology, toxicology, or a related scientific discipline. Candidates should have 3 years or more of postdoctoral experience, evidence of excellence in research, interest in teaching medical and graduate students, and ability to establish and support an independent program of research. An active research interest that brings molecular biological approaches to pharmacology is sought. Submit current curriculum vitae, names of three references, and a statement of research plans to: **C. W. Cooper, Ph.D., Chairman, Department of Pharmacology and Toxicology, University of Texas Medical Branch, Galveston, TX 77550.** Equal Opportunity Employer/Affirmative Action.

ASSISTANT PROFESSOR CELL OR MOLECULAR BIOLOGY

The Department of Biology at Syracuse University is seeking a person with a Ph.D. and postdoctoral experience in connective tissue studies for a full-time tenure-track position. This individual will contribute to a major program of growth and development within the Department, including construction of new research facilities, increased commitment to the graduate program, and the addition of several faculty members in each of the next 5 years.

The successful candidate will be expected to develop an active, externally funded research program and to participate in the teaching activities of the Department. Preference will be given to individuals with background and interests appropriate for participation in a current program project dealing with the effects of hormones and growth factors on connective tissues as a function of age.

Candidates should send a current curriculum vitae, a statement of research plans, and the names of three individuals from whom letters of reference may be obtained to: **Dr. Judith Ann Foster, Biology Department, 130 College Place, Syracuse, NY 13244-1220.** Applications will be accepted until 15 June 1987.

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POSITIONS OPEN

The Department of Veterinary Biosciences, College of Veterinary Medicine, University of Illinois, Urbana-Champaign is seeking applications for two regular tenure-track positions at the ASSISTANT OR ASSOCIATE PROFESSOR level in the area of veterinary macro- or microanatomy. Individuals will teach either macro- or microscopic anatomy in the veterinary medical curriculum and will be expected to develop a research program and participate in graduate instruction. Current research interests in the group are in endocrine/reproductive and hard tissue studies.

Candidates should possess the Ph.D. degree or equivalent with preference to those who also hold the D.V.M. or equivalent. The applicant must use English fluently. Salary commensurate with qualifications. To ensure full consideration, applications should be received by 30 May 1987. Starting date on or after 1 July 1987.

Send curriculum vitae and three letters of reference to: Dr. W. C. Wagner, Head, Veterinary Biosciences, University of Illinois, 2001 South Lincoln, Urbana, IL 61801; telephone: 217-333-2506.

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ASSISTANT PROFESSOR (tenure track). The Department of Ophthalmology and the Department of Microbiology, Biochemistry and Molecular Biology at the University of Pittsburgh School of Medicine are seeking an individual with an active research program in the cellular and molecular biology of chlamydial infections. Highly qualified individuals pursuing related areas of research interest are also encouraged to apply. The successful candidate will hold a joint appointment in the two departments, will be expected to establish an independent research program and develop an interest in the ocular complications of chlamydial infections. Postdoctoral experience is required, and preference will be given to candidates with funded or pending research support. A competitive salary, start-up funds and research space in The Eye and Ear Institute of Pittsburgh are available. Please submit your curriculum vitae and research synopsis (two pages) by 1 July 1987 to: Dr. David K. Wilcox, Department of Ophthalmology, University of Pittsburgh School of Medicine, Room 1015, The Eye and Ear Institute, 203 Lothrop Street, Pittsburgh, PA 15213. *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR (tenure track). The Department of Ophthalmology and the Department of Microbiology, Biochemistry and Molecular Biology at the University of Pittsburgh School of Medicine are seeking an individual with an active research program in the molecular biology of the extracellular matrix. The successful candidate will hold a joint appointment in the two departments, will be expected to establish an independent research program and develop an interest in ocular diseases associated with scar formation. Highly qualified individuals pursuing related areas of research are also encouraged to apply. Postdoctoral experience is required, and preference will be given to candidates with funded or pending research support. A competitive salary, start-up funds, and research space in The Eye and Ear Institute of Pittsburgh are available. Please submit curriculum vitae and synopsis (two pages) by 1 July 1987 to: Dr. David K. Wilcox, Department of Ophthalmology, University of Pittsburgh School of Medicine, Room 1015, The Eye and Ear Institute, 203 Lothrop Street, Pittsburgh, PA 15213. *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR IN MEDICINE—University of California, San Francisco. This is a tenure-track position for a faculty member in the metabolism division of the Department of Medicine. The appointee will be expected to augment the strength of the division in clinical diabetes and to develop a research program on the molecular biology of insulin secretion/action and its application to human diabetes mellitus. The appointee must have a background of training and accomplishments in molecular biology and be Board-eligible/certified in endocrinology/metabolism. Send curriculum vitae to: Richard J. Havel, M.D., Search Committee Chairperson, Department of Medicine, Box 0130, University of California, San Francisco (UCSF), San Francisco, CA 94143. *UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOTECHNOLOGY: Biology Department, University of Colorado at Colorado Springs, invites applications for 1-year appointment with annual renewal considered. Duties: (i) Conduct research on molecular biology of industrial yeast (75%). (ii) Develop two-semester biotechnology lab for undergraduate and graduate students. Ph.D. and recombinant DNA experience required. Postdoctoral experience preferred. Send curriculum vitae, reprints, and three reference letters to: Dr. James R. Mattoon, Biology Department, University of Colorado, Colorado Springs, CO 80933-7150. *An Equal Opportunity Employer.*

ASSISTANT PROFESSOR CARDIOPULMONARY PHYSIOLOGY

The Department of Physiology, Wayne State University School of Medicine, is inviting applications for the position of tenure-track assistant professor in the area of cardiopulmonary physiology. Preference will be given to candidates with a strong background and research interest in cardiorespiratory physiology. The successful candidate will be expected to establish an independent research program supported by extramural funding. Teaching responsibilities include the training of graduate students, and participation in departmental classes for medical and allied health students. The target date for filling the position is the winter of 1988. Salary will be commensurate with qualifications and experience. Send curriculum vitae, a description of research interests, and the names of three references to: Dr. J. W. Phillis, Chairman, Department of Physiology, School of Medicine, Wayne State University, 540 East Canfield, Detroit, MI 48201, by 30 June 1987. *An Affirmative Action/Equal Opportunity Employer.*

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 the mode of action of anticancer drugs. Research and demonstrated leadership experience in biochemical pharmacology 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.*

AUDITORY RESEARCH EVOKED POTENTIAL STUDIES (ANIMALS)

A nontenure-track, full-time research position is available immediately for a person with training (Ph.D.) and experience appropriate to conduct evoked potential studies on awake and anesthetized animals with chronically implanted electrodes. Excellent opportunity to pursue basic and applied study of the auditory system and to collaborate with others in on-going studies of the anatomy, physiology, and histochemistry of the cochlea, auditory nerve, and brainstem. Interested persons should send curriculum vitae, the names of three references, and a letter describing research interests to: J. H. Mills, Department of Otolaryngology and Communicative Sciences, Medical University of South Carolina, Charleston, SC 29425. *The University is an Affirmative Action/Equal Opportunity Employer, and encourages applications from minority group members.*

AUDITORY RESEARCH—HUMAN SUBJECTS

A nontenure-track, full-time research position is available immediately. This position requires training (Ph.D.) and experience appropriate to conduct audiological, psychophysical, and evoked potential studies with human subjects. Certification in audiology useful but not mandatory. CFY can be arranged. Excellent opportunities are available for collaboration. Current projects include single-unit studies of the auditory nerve and brainstem, cochlear and neuroanatomy, histochemistry of the cochlea, and evoked potential studies with infants and experimental animals. This position is an excellent opportunity to pursue basic and clinical studies in an active, multidisciplinary research setting with state-of-the-art instrumentation. Interested applicants should send curriculum vitae, the names of three references, and a letter describing research interests to: J. H. Mills, Department of Otolaryngology and Communicative Sciences, Medical University of South Carolina, Charleston, SC 29425. *The University is an Affirmative Action/Equal Opportunity Employer, and encourages applications from minority group members.*

POSITIONS OPEN

ASSOCIATE Ph.D. with at least 8 years of background research and publications in the biochemistry of development, to perform research on the regulation of hemopoiesis, to assist in the supervision of graduate and postdoctoral students, to design and maintain scientific equipment, and to supervise laboratory computer work. Experience in the purification of membrane growth factor receptors required 35 hours per week; salary: \$34,000. Reply to: Dr. E. R. Stanley, Albert Einstein College of Medicine, Chanin 513, 1300 Morris Park Avenue, Bronx, New York, NY 10461. *An Equal Opportunity Employer.*

ASSOCIATE V. ANALYTICAL CHEMIST with Ph.D. in chemistry or related field or M.S. in chemistry or related field with a minimum of 4 years of experience in analytical chemistry. Experience in drug screening and/or forensic sciences methodology using solid-phase extraction, thin-layer chromatography, immunoassay, and mass spectrometry desirable. Duties relate to supervision of, and participation in, analysis of drugs in biological fluids. Submit résumé by 24 April 1987 to: Dr. Charles R. Short, Department of Veterinary Physiology, Pharmacology and Toxicology, School of Veterinary Medicine, Louisiana State University (LSU), Baton Rouge, LA 70803. *LSU is an Equal Opportunity Employer.*

BEHAVIORAL NEUROSCIENCE

Research position available immediately for someone with a background in behavior or neuroscience. Prefer individuals familiar with or willing to learn modern cellular and molecular techniques for studying brain-behavior relationships. Our research project concerns the influence of gonadal hormones on neuroendocrine mechanisms regulating mammalian reproductive behavior, and utilizes quantitative autoradiography, receptor assays, immunohistochemistry, and neural tract tracing techniques. Send curriculum vitae and the names, addresses, and telephone numbers of four references to: Dr. Lynwood Clemens, Department of Zoology, Michigan State University, East Lansing, MI 48824.

BIOCHEMICAL ENGINEERING, University of Maryland. Applications are invited for a faculty position (tenure) to be jointly held in the Chemical Engineering Program of the Department of Chemical and Nuclear Engineering and the Agricultural Biotechnology Center, an interdisciplinary research unit. Applicants should have an earned Ph.D. and a strong interest in research in bioconversion of agricultural products. Superior applicants at any rank will be considered although a reasonably senior person is desired. Candidates should submit curriculum vitae and the names of three references to: Dr. Ted Smith, Director, Chemical Engineering Program, Department of Chemical and Nuclear Engineering, University of Maryland, College Park, MD 20742-2111. Applications will be accepted until the position is filled; for best consideration, applications should be submitted before 1 June 1987. *The University of Maryland is an Equal Opportunity/Affirmative Action Employer and welcomes applications from qualified minorities and women.*

BIOCHEMICAL ENGINEERING POSITIONS

The University of California, Irvine, is recruiting for tenure-track faculty positions at any level in Biochemical Engineering. The School of Engineering is moving toward establishment of a new department to complement a range of scientific endeavors in biotechnology within the University and in the adjacent biotechnological community. The opportunity to join in the building of this new department in a growing research university in association with surrounding industry should be an exciting prospect for scholars looking for new challenges. A Ph.D. in chemical engineering or related field is required. Responsibilities will include research and teaching at the graduate level. Specific areas of research to include the following: cellular culturing systems, bioreactors, separation and purification processes, and/or analytical monitoring methods. Please forward your letter of interest, curriculum vitae, and list of references to: Dean William A. Sirignano, Biochemical Engineering Search Committee, School of Engineering, University of California, Irvine (UCI), CA 92717. *UCI is an Equal Opportunity/Affirmative Action Employer.*

BIOTECHNOLOGY

Materials Research and Development

\$32,567 to \$42,341

The Naval Surface Weapons Center, located in suburban Washington, DC, is establishing a laboratory for research and development in the areas of molecular biology and microbial genetics. Our Research and Technology Department is seeking molecular biologists, biochemists, bacteriologists, and biophysicists for positions in this laboratory. Publication in the open literature is expected.

Salary will be based on qualifications.

For further information, contact Dr. James F. Goff, commercial — (202) 394-2289 or AUTOVON — 290-2289. Interested applicants should send a resume (or SF-171 if current or reinstatable Federal Government employee) including list of publications and patents, and a detailed description of your experience in the field to NSWC by May 8, 1987.



NAVAL SURFACE WEAPONS CENTER
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10901 New Hampshire Avenue
Silver Spring, MD 20903-5000

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- U.S. Citizenship Required •

FACULTY AND STAFF POSITIONS

BIOLOGY DEPARTMENT

TEXAS A&M UNIVERSITY

Faculty Position. A tenure track position is available at any level in the area of **Molecular Genetics of Microorganisms**. The successful candidate must have demonstrated significant potential to develop a vigorous, extramurally funded research program. Researchers in yeast molecular biology are especially encouraged to apply. Contact: Microbiology Search Committee, Dr. Susan S. Golden.

Senior Scientist is sought to supervise a state of the art DNA sequencing and Synthesis Laboratory. Applicants must be experienced with both Maxam and Gilbert and Dideoxy sequencing procedures, and with automated oligonucleotide synthesis. Opportunity for pursuit of individual research interests and providing sequencing service and instruction for others. Ph.D. required, or at least three years of direct participation in sequencing projects. Approximate salary \$30,000, but commensurate with experience. Contact: Dr. Timothy C. Hall.

Electronics Repair and Maintenance Support Engineer. Applicants must have field experience in repair and maintenance of biological and biochemical laboratory equipment. Ability to design and construct required modifications to such equipment and conduct training sessions is essential. Contact: Dr. Timothy C. Hall.

Additional Positions. Postdoctoral and Graduate Research Positions are available within the department. Contact: Dr. Timothy C. Hall.

Applications, including a C.V., a description of goals and interests, and names of three references with addresses and phone numbers, should be mailed directly to the contact person for each position at the following address.

BIOLOGY DEPARTMENT, TEXAS A&M UNIVERSITY
COLLEGE STATION, TX. 77843-3258

Texas A&M University is an equal opportunity employer.

We Said NO. So You Could Say YES!

IGEN, Inc. turned down a major pharmaceutical firm's offer to purchase us because we believe IGEN can become one of the major diagnostics and pharmaceuticals companies of the future.

ELECTROCHEMIST

If you are a Ph.D. in Electrochemistry or Electro-analytical Chemistry with experience in modified electrode surfaces, spectroelectrochemistry or electrochemistry at microelectrodes, you may be qualified for the challenge.

The successful candidate will have working knowledge of organic electrochemistry and the electrochemical techniques necessary to elucidate electrode reaction mechanisms.

IGEN welcomes discussions of these opportunities with curious qualified candidates who may not be currently exploring employment alternatives. Call in confidence to our Director of Instrumentation (301) 984-7964 or send C.V. with salary history to: **IGEN, Inc., 1530 East Jefferson Street, Rockville, MD 20852.**

IGEN, INC. *An Emerging Leader in Biotechnology*
An Equal Opportunity Employer

Clinical Virologist

The Upjohn Company, recognized as a worldwide leader in pharmaceutical research, is seeking applicants for the position of Research Scientist in the Biotechnology Product Development Group of the Control Division.

The successful candidate will have experience in developing laboratory methodology to determine the presence of microbiological contamination in continuous cell lines and recombinant proteins. In addition, this individual will be expected to take responsibility for Control product development activities on all Upjohn vaccine products. This will include coordinating research efforts between scientists, serving as a representative on project teams, and providing the rationale for product specifications.

The candidate will join an inter-disciplinary team that is responsible for providing data to address product registration issues on a worldwide basis. The position requires a Ph.D. in virology, microbiology, or clinical chemistry and experience with modern diagnostic methods used in the identification of pathogenic organisms. Good oral and written communication skills are required.

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

For confidential consideration, call toll free 1-800-253-8600, ext. 3-6767, (inside Michigan call collect 616-323-6767) to request an employment application be sent to you. Please refer to Ad Number 20972-F when calling.

Upjohn

Our commitment to scientific excellence continues...

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DIRECTOR BRAIN RESEARCH INSTITUTE

Applications and nominations are invited for a new Director of the Brain Research Institute, University of California, Los Angeles. Of utmost importance in the candidate's qualifications is an outstanding, current research and publication record in neurobiology. The candidate should have a strong interest in the development of interdisciplinary activities in neurobiology, a willingness to administer budgetary, personnel and related processes fairly and efficiently, and the ability to obtain appropriate external financial support for the Brain Research Institute.

The Brain Research Institute will reorganize into a series of major laboratories consisting of groups of scientists with common interests. The Director of the Brain Research Institute will also direct one of these laboratories and, in consultation with an Executive Committee, govern the Institute and develop excellence in multiple areas of neurobiology.

Applications or nominations including a complete curriculum vitae will receive full consideration and should be sent to:

Search Committee for Brain Research Institute Director
c/o Faye Porche, Administrative Assistant
UCLA School of Medicine
Room 12-138
Center for the Health Sciences
Los Angeles, California 90024

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

BIOCHEMIST

Merck Sharp and Dohme Research Laboratories, a world leader in the development of ethical pharmaceuticals for human and animal health, is currently offering an excellent career opportunity for a biochemist to join the Department of Basic Microbiology.

The incumbent would develop and perform enzyme and receptor binding assays for the discovery of pharmacologically active fermentation products. Also, he/she would assist in the development of computer programs for the management of assay data.

A Ph.D. or equivalent in biochemistry or pharmacology with a strong background in enzyme or receptor binding assays and purification of proteins is required. Experience with computers is desirable.

Salary and benefits are excellent. Our location is Rahway, New Jersey, 25 miles from New York City. Interested applicants should submit a curriculum vitae to **Luis F. Ballester, Merck Sharp & Dohme Research Laboratories, P.O. Box 2000, WBD-214, Rahway, New Jersey 07065**. Equal Opportunity Employer.



Merck & Co., Inc.

REQUEST FOR RESEARCH GRANT APPLICATIONS BIOCHEMICAL AND MOLECULAR ASPECTS OF THE REGULATION OF ION TRANSPORT IN EPITHELIAL CELLS

The Cystic Fibrosis Foundation invites grant applications to define and characterize the biochemical and molecular aspects involved in the regulation of epithelial cell ion transport related to cystic fibrosis (CF), with specific focus on post-receptor regulatory mechanisms.

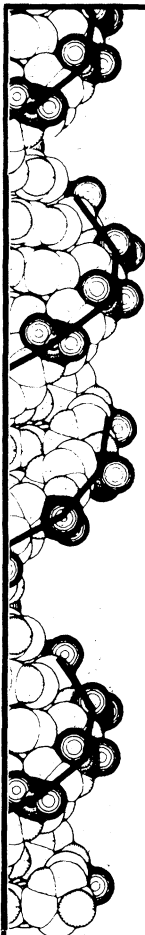
This special request is intended to encourage innovative, meritorious studies focusing on areas including but not limited to: molecular/biochemical identification of transport proteins and associated regulatory elements; genetic manipulation of transport models to study regulation; identification of second messenger pathways and interrelationships among these pathways; approaches to bypassing or modifying altered transport mechanisms in CF cells. Applications must demonstrate potential relevance to CF.

Awards will be made as grants-in-aid. Applicants may request up to \$100,000 in total annual costs (direct and indirect) for up to two years.

Interested individuals are encouraged to contact the Foundation to discuss the potential relevance of their work to the objectives of this announcement and to submit a letter of intent by June 1, 1987. The deadline for submission of applications is August 1, 1987. Application materials are available from the



Cystic Fibrosis Foundation
6931 Arlington Road
Bethesda, Maryland 20814
(301) 951-4422



Repligen Corporation is a biotechnology company that develops and produces biochemical and biocatalytic products for the health care, personal care and industrial markets. We are seeking qualified candidates for the following positions:

Manager of Peptide Services

To coordinate the synthesis and analysis of peptides and develop quality control criteria and therapeutic proteins. This position requires either a B.S. with a minimum of 2 years' experience or a recent Ph.D. in:

- Peptide mapping and purification by HPLC
- Amino acid analysis by HPLC
- Peptide synthesis
- Peptide sequencing
- Experience with chemical modification of proteins a plus.

Experienced Protein Purification/ Process Development Scientists

At Ph.D. and M.S./B.S. level. Requirements are:

- At least 2 years' experience in developing and scaling up methods for purification of therapeutic proteins produced by recombinant techniques.
- Working knowledge of GMP manufacturing procedures.
- Experience with bacterial fermentation of mammalian cell culture a plus.

DNA Sequencing Research Associate

To supervise DNA sequencing service including coordination of sequencing projects. Requirements are:

- B.S./M.S. in biochemistry/microbiology and at least 1-2 years' lab experience.
- Extensive experience with DNA sequencing and computer organization and analysis of sequence data.
- Thorough training in recombinant DNA technology.
- Experience in project organization, technician supervision and operation of a DNA synthesizer a plus.

Repligen offers a competitive salary, excellent benefits and equity participation. Please submit cover letter, resume and references to: **Personnel Director-R&D, One Kendall Sq., Bldg. 700, Cambridge, MA 02139**. An Equal Opportunity Employer.

RepliGen

ASSOCIATE R & D DIRECTOR CSL AUSTRALIA

CSL is Australia's leading manufacturer of biologicals and has a strong commitment to Research and Development. CSL's major facilities are located at Parkville which is four kilometers from the centre of Melbourne, and is in close proximity to the University of Melbourne, the Walter and Eliza Hall Institute of Medical Research and several other institutions.

CSL is looking for a senior researcher with the ability to manage, plan complex R & D activities, develop and implement strategies compatible with our corporate goals, adapt to changing technological needs, and motivate and direct a team of researchers. The right person will make significant contributions to the identification of new business opportunities, translate the results of scientific programs into recommendations for corporate action, and make sure projects operate efficiently, effectively and economically.

This new position will be one of two Associate R & D Directors who will each share responsibility for the R & D Group and manage their respective areas of activities and projects.

Required experience includes a tertiary qualification to medicine, veterinary science or a higher degree in one of the biological sciences and academic and/or industrial research experience and possess ability or potential as a senior research manager.

We offer a competitive salary, removal expenses and associated benefits for this appointment which we would expect to make about mid-1987.

Please send a cv outlining your qualifications, description of scientific and research experience and the names of two referees, to Mr. E.D. Eade, Personnel Director, Commonwealth Serum Laboratories, 45 Poplar Road, Parkville Vic. 3052, Australia, by 15 May 1987. Telephone enquiries may be made to Dr. Peter Schiff, R & D Director, +613-3891484.

CSL COMMONWEALTH
SERUM
LABORATORIES

Laboratory Assistant Fermentation R&D Department

Pfizer Central Research has an immediate opening for a laboratory assistant in its Fermentation R&D Department. You will contribute to the elucidation of biochemical pathways for a wide variety of fermentation products, including antibiotics. Typical duties will include mutation/selection of organisms, enzyme isolation and manipulation of biochemical pathways to improve production.

Applicants should possess a BS or MS in Biochemistry, Microbiology or related field.

In addition to a stimulating scientific environment, we also offer competitive compensation, benefit package and the opportunity to live in an attractive Connecticut shore community. Please send resume and description of research accomplishments to: Lorraine C. Corr, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, Connecticut 06340.



An equal opportunity employer

MOLECULAR BIOLOGISTS

Southern Research Institute has immediate positions available for qualified molecular biologists with post doctoral experience in the following areas:

Eukaryotic Molecular Genetics. Prefer experience related to molecular oncology/oncogene research. Must possess skills in eukaryotic cell transfection and expression techniques, DNA sequencing, blot hybridization, plasmid cloning/subcloning, genomic cloning, and other recombinant DNA techniques.

Prokaryotic Molecular Genetics. Prefer experience which also includes some eukaryotic molecular genetics and gene expression. Skills required in both basic and applied molecular biology/genetics, plasmid cloning, DNA sequencing, gene expression in prokaryotic systems/eukaryotic systems, and molecular mechanisms involved in microbial pathogenesis.

Duties may involve work on existing and proposed projects, developing expanded programs in oncogene/molecular carcinogenesis research and/or obtaining independent research support in own area of interest.

Located in a 20-acre complex and with a staff of over 700, Southern Research Institute is a diversified contract research organization in its fifth decade of operation. The Birmingham area, with a population of one million, offers a mild four-season climate, lower-than-average cost of living, diverse recreational and cultural opportunities and a variety of convenient housing alternatives. To apply, send c.v. to:



Denise D. Johnson
SOUTHERN RESEARCH INSTITUTE
Personnel Office, Dept. B188
P.O. Box 55305
Birmingham, AL 35255-5305

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POSITIONS OPEN

BIOCHEMISTRY/IMMUNOLOGY

The School of Pharmacy, Campbell University, invites applications for a 12-month, tenure-track position at the level of assistant or associate professor, beginning 1 August 1987. Applicants should have a Ph.D. and broad training in biochemistry and immunology. The salary is negotiable and commensurate with qualifications. The successful candidate will participate in the teaching of biochemistry and immunology in the professional curriculum. Excellence in teaching is expected. Applicants should submit curriculum vitae, a statement of research and teaching goals, and three letters of reference to: **Dr. Harry Rosenberg, Chairman, Department of Pharmaceutical Sciences, School of Pharmacy, Campbell University, Buies Creek, NC 27506.**

An Equal Opportunity Employer

BIOLOGICAL SCIENCES. Teach seed plant anatomy and physiology and a survey course covering algae, fungi, and plants. Participate in departmental General Biology sequence. Initiate a program of undergraduate research in agriculture and plant biotechnology. Ph.D. in biology, botany, or agricultural discipline with interest in undergraduate teaching. Instructor or assistant professor based on experience and qualifications. Send letter and résumé by 1 May 1987, to: **Dr. Carl Hoagstrom, Chairman, Department of Biological Sciences, Ohio Northern University, Ada, OH 45810. Affirmative Action/Equal Opportunity Employer.**

CARDIOVASCULAR ELECTROPHYSIOLOGIST AND MOLECULAR BIOLOGIST

The Department of Physiology, University of Manitoba, invites applications for two positions from investigators in the field of experimental cardiology to be appointed at the level of **ASSISTANT PROFESSOR** (contingent appointment) in the Division of Cardiovascular Sciences. The applicant must have a M.D. or Ph.D. degree; and have 2 years of experience. Applicants with backgrounds in electrophysiology and molecular biology are encouraged to apply. The successful candidates will be expected to compete for local and national scholarship awards (for example, MRC) and develop their independent research programs as well as collaborate with other members of the department. Teaching in a graduate program will be a requirement. Please submit a copy of your curriculum vitae including an outline of your research interests and 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, R3E 0W3 Canada.** Deadline for application is 30 June 1987. *Both men and women are encouraged to apply. In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada.*

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 Chairperson 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. Individuals with a strong background in molecular biological techniques are encouraged to submit their applications. With an ongoing Molecular Biology Graduate Program and a new Macromolecular Facility, the Stritch School of Medicine has a strong commitment to molecular biological research. Currently, the faculty of the department is pursuing research in: molecular biology, cellular immunology, prokaryotic and eukaryotic genetics, virology, immunochemistry, microbial physiology, pathogenic mechanisms, and mycology. Applicants should send curriculum vitae and the names of three references by 1 July 1987 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.**

POSITIONS OPEN

CHAIR DEPARTMENT OF BIOLOGICAL SCIENCES COLLEGE OF LIBERAL ARTS WAYNE STATE UNIVERSITY

We seek nominations, including self-nominations, of persons actively engaged in research to chair this Department, which encompasses a broad range of the life science subdisciplines. The Department has 28 faculty members and approximately 130 graduate students in the Ph.D. and M.S. programs. A new research building is planned for occupancy in late 1989. The position is available as early as summer 1987 but may be deferred to no later than August 1988. An attractive salary, substantial start-up funds, etc. will be negotiated. Please send curriculum vitae and other pertinent material to: **Professor Henry V. Bohm, Chair, Selection Advisory Committee, Department of Physics, Wayne State University, Detroit, MI 48202. Affirmative Action/Equal Opportunity Employer.**

CHAIRMAN DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

The Medical University of South Carolina is seeking applicants for the position of Chairman of the Department of Microbiology and Immunology. An individual is sought who has the experience, desire, and ability to provide strong administrative leadership, direct an active research program, and organize and supervise teaching programs for medical students and graduate students. The candidate should be an established investigator in an area of contemporary microbiology or molecular biology. New resources will be made available to develop a strong department which is expected to play a major role in the basic science programs of this institution. These currently include ongoing development of centers in molecular and structural biology, cancer and cardiovascular disease. Curriculum vitae and names of three references should be sent to: **W. Edmund Farrar, M.D., Chairman, Microbiology Search Committee, Infectious Diseases Division, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425. An Equal Opportunity M/F Affirmative Action Employer.**

DEAN, COLLEGE OF PHARMACY, WASHINGTON STATE UNIVERSITY. Washington State University invites applications and nominations for the position of Dean, College of Pharmacy. The position is available 1 July 1987. The University is located at Pullman, and enrolls approximately 16,000 full-time students with approximately 200 students in the College. The College's 19 faculty provide vigorous undergraduate and graduate programs leading to the Bachelor of Pharmacy and the M.S. and Ph.D. in pharmacology/toxicology. There are approximately 35 graduate students in the interdisciplinary pharmacology/toxicology program. The college recently moved to a new facility. A candidate for the position should have earned a doctorate in a pharmaceutical or science discipline. Desirable qualifications include a degree in pharmacy, experience with teaching and curriculum development at the undergraduate and graduate level, demonstrated research achievements, and an ability to relate to pharmacy practitioners. Salary dependent upon qualifications. Application deadline is 4 June 1987. Applications should include a current résumé and the names and addresses of five references. Applications and nominations should be sent to: **Charles D. Barnes, Chair, Dean of Pharmacy Screening Committee, 205 Wegner Hall, Washington State University, Pullman, WA 99164-6520. Washington State University is an Affirmative Action/Equal Opportunity Employer.**

DIRECTOR—Center for Great Lakes Studies/ Great Lakes Research Facility University of Wisconsin—Milwaukee (UWM). Major research unit of The Graduate School at UWM seeks applicants for a director to develop and promote interdisciplinary research programs, manage the research facility, and foster expansion of research activities and laboratory facilities. Must have Ph.D., qualifications for tenured faculty appointment, record of research achievement in lake and ocean science or technology, and management experience in marine research programs. Salary competitive. Apply with letter, curriculum vitae, names, addresses of three references by 15 June 1987 to: **George W. Keulks, Dean, Graduate School and Research, P.O. Box 340, University of Wisconsin—Milwaukee Milwaukee, WI 53201. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

UNIVERSITY OF QUEENSLAND Equal Opportunity in Employment is University Policy CHAIR IN ZOOLOGY

Applications are invited from distinguished scientists with high academic qualifications and tertiary level experience in teaching and research in the field of terrestrial or marine biology.

The appointee is expected to provide academic leadership in the development of his or her discipline, and in the scholarly activities of the department, particularly the promotion of high standards and encouragement of quality research and postgraduate studies. The appointee should be prepared to accept a significant amount of administrative responsibility within the department, including terms of headship which are applicable to all permanent members of the academic staff under University policy.

Salary per annum: A\$58349. Closing date: 1 June 1987. **Reference No. 16887**

Additional information and application forms may be obtained from: **The Director, Personnel Services, University of Queensland, St. Lucia Queensland 4067, Australia.**

CHEMIST/RESEARCH ASSOCIATE: Perform experimental research in the synthesis of polyfunctional monomers containing photolabile units; imaging by photo-decoupling of cross-links. Ph.D. in chemistry with coursework in design, synthesis characterization, and application of high-temperature photoresists and polymer chemistry required. Forty hours per week; \$19,000 per year. Mail résumé to: **NYS Job Service, JO#NY8006933, 175 Remsen Street, 2nd Floor, Brooklyn, NY 11201.**

CHIEF OF STAFF—The Veterans Administration Medical Center, Portland, Oregon, is seeking a **CHIEF OF STAFF** for our three-division general medicine and surgery facility. We hope to recruit an active clinician with administrative experience and a record of research accomplishments. We will occupy a new 490-bed acute care hospital and research center in 1987. A new outpatient clinic and 120-bed nursing home care unit are in full operation. Please send nominations and applications to: **James Metcalfe, M.D., Chairman, Search Committee, c/o Medical Staff Coordinator (11), VA Medical Center, P.O. Box 1034, Portland, OR 97207 by 1 June 1987. The Veterans Administration is an Equal Opportunity Employer.**

COORDINATOR SLEEP DISORDERS CLINICAL RESEARCH CENTER

Applications are sought for the position of coordinator of the newly established **Eleanor Dana Sleep Disorders Clinical Research Center of the University of Pennsylvania.** The coordinator will be accountable to an Executive Group of sleep scientists and will be responsible for supervising operation of the Research Center including implementation of specific protocols and data analysis. The studies to be performed will all be in human subjects. The Center will employ research technicians who will report to the Coordinator for supervision and training. Applicants should have a Ph.D., be familiar with psychophysiological recording (preferably human sleep recording), have at least basic computer skills, and be interested in pursuing clinical research for a period of 1 to 3 years. Salary depends on previous experience. Applicants should send résumés with names of three professional references to: **Mr. Daniel C. Barrett, Sleep Center Search Committee, 975 Maloney Building, Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104-4283. Affirmative Action/Equal Opportunity Employer, M/F.**

ENDOWED CHAIR. Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles (UCLA) School of Medicine, seeks appropriate candidates for **Della Martin Chair in Psychiatry**, endowed professorship for distinguished academic psychiatrist (English-speaking, eligible California licensure) committed to research especially on major mental illnesses of adolescents and young adults (for example, schizophrenia). Send curriculum vitae and letter discussing career goals to:

**Arnold B. Scheibel, M.D., Chairman
Della Martin Search Committee
UCLA Neuropsychiatric Institute, B8-262
760 Westwood Plaza
Los Angeles, CA 90024**



Micro Chemi Luminescent Assay Systems . . . MCLAS Technologies, Inc. offers the opportunity to pursue scientific careers in a stimulating environment. We are seeking experienced people interested in becoming a part of a rapidly expanding company. There are currently several openings in the following areas:

FOOD MICROBIOLOGIST - TECHNICAL SERVICES

B.S. degree in Microbiology/Food Science. 3-5 years industry experience in direct microbiological analysis of food products according to AOAC, USDA, FDA procedures. Immunology and quality control background desirable. Individual will ultimately be responsible for product technical service within a region. Travel required.

MICROBIOLOGIST/IMMUNOLOGIST

M.S. in Microbiology, Immunology or related discipline. 3-5 years experience in tissue culture techniques and animal studies. Previous work with macrophages desirable.

PRODUCTION MANAGEMENT

B.S. and/or M.S., 8 to 10 years hands-on experience in diagnostics manufacturing. Background should include fermentation, filtration, lyophilization, coating, filling, packaging and sterilization.

RESEARCH ASSISTANTS

B.S. in Microbiology with 3-5 years experience in virology and bacteriological research.

INSTRUMENTATION DESIGN ENGINEER

B.S. Electrical Engineering with 5 years experience in digital and microprocessor design. Previous experience with photomultiplier tube technology desirable.

We offer competitive salaries, benefits and stability for future development. Please send a resume, bibliography and references to:

MCLAS Technologies, Inc.
18585 Sigma Road,
San Antonio, TX 78258

THE AUSTRALIAN NATIONAL UNIVERSITY. Applications are invited from suitably qualified men and women for appointment as **PLANT CELL AND MOLECULAR BIOLOGISTS** in the **RESEARCH SCHOOL OF BIOLOGICAL SCIENCES**.

Several research posts (Postdoctoral Fellow (PDF) or Research Fellow (RF)) are available to support and augment a major new program focused on *Arabidopsis*. They are: a PDF to study genetic aspects of production, selection and characterisation of mutants; a PDF to select and study mutations affecting allocation of seed and photosynthate resources toward growth; a PDF to characterise mutations affecting CO₂ transport and photosynthesis in physiological, biochemical and molecular terms; a PDF to study the genetic basis of regeneration in tissue cultures, particularly the role of the cytoskeleton and to undertake work on transformation; and a PDF or RF for molecular studies of morphogenesis and the cytoskeleton and calcium regulatory systems. A PDF (or RF) is also available to work in an associated program on grass systematics and evolution, aimed at complementing the present work of the Taxonomy laboratory on the broader aspects of grass classification. Relevant experience in cellular/molecular/genetical/biochemical research is desirable. Starting dates are negotiable in the period mid-1987 to mid-1988. Further particulars are available from the School Secretary, Research School of Biological Sciences. Closing date: 15 May 1987. Ref: BS: 12.3.1. Salary will be in accordance with qualifications and experience within the range: Postdoctoral Fellow Grade 1 (at a fixed point) \$A24,013 - \$A27,507 p.a.; Research Fellow \$A27,859 - \$A36,000 p.a. Appointment will be: Research Fellow normally up to three years with the possibility of extension to maximum of five years; Postdoctoral Fellow normally two years, with the possibility of extension to maximum three years. Superannuation, maternity leave and assistance with travel available. The University reserves the right not to make an appointment or to make an appointment by invitation at any time. Applicants should quote the reference number when submitting applications to **R.V. Dubs, Registrar, GPO Box 4, Canberra, ACT, 2601 Australia. THE UNIVERSITY IS AN EQUAL OPPORTUNITY EMPLOYER.**



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Department of
Agriculture**

AGRICULTURAL RESEARCH SERVICE is seeking innovative scientists for challenging positions in biochemistry research at the Northern Regional Research Center. Three positions will be available this Fall as part of an expanding team investigating microbial and enzymatic interactions with carbohydrate polymers from plants:

1. **POLYSACCHARIDE BIOCHEMIST** (GS-11/12) to study novel enzymatic approaches for introducing unusual functionalities into complex carbohydrate polymers. (Position No. 1W2560);
2. **ENZYMOLOGIST** (GS-11) to study carbohydrate modifying enzymes from microbial sources. (Position No. 1W2561); and
3. **BIOCHEMIST (MICROBIOLOGY)** (GS-11) to study substrate recognition and attachment phenomena between microorganisms and insoluble substrates. (Position No. 1W2562).

Position (1) is a permanent position. Positions (2) and (3) are Research Associates with a maximum appointment of 4 years. PhD or equivalent required for each position. Salaries: GS-11, \$27,172; GS-12, \$32,567. The Northern Regional Research Center is a large, well-equipped major research facility of the USDA, housing more than 320 scientists and support personnel. To apply send resume and names of three references before June 1, 1987 to: **Dr. J. Michael Gould, USDA/ARS Northern Regional Research Center, 1815 N. University Street, Peoria, IL 61604.** Applications in response to this ad must be marked 7N005. Please specify clearly the position for which you are applying. The USDA/ARS is an Equal Opportunity Employer.

Merck Sharp & Dohme Research Laboratories is currently offering several excellent career opportunities for Molecular Biologists/Cell Biologists to join the expanding Department of Cellular and Molecular Biology.

MOLECULAR BIOLOGISTS

Responsibilities for these positions will include the utilization of a broad spectrum of techniques, including construction of cDNA and genomic DNA libraries, DNA/RNA preparation, blot analyses, DNA sequencing, and transfection and culturing of mammalian cells.

An M.S. or B.S. degree in Biochemistry, Molecular Biology, or the equivalent with at least 2 years of broad and significant experience in molecular biology are required.

CELL BIOLOGIST

Responsibilities for this position will include maintenance, characterization and analysis of mammalian and invertebrate cultured cell lines, serum-free media development, scale-up culture, and cell and media harvesting and processing. In addition, molecular biological procedures, such as DNA/RNA preparation, plasmid vector construction, DNA transfection, and transient and stable gene expression analysis will be performed. These techniques will be applied to the analysis and expression of genes of potential pharmaceutical interest.

An M.S. or B.S. degree in Cell Biology, Biochemistry, or the equivalent, with at least 2 years of significant experience in mammalian cell culture are required. Experience in molecular biological techniques is a plus.

Excellent salary and benefits programs accompany these positions at our new research building in Rahway, New Jersey. Please send your resume, three professional references whom we may contact, and salary requirements in complete confidence to: **Mr. Jacques P. Kueny**

**Merck Sharp & Dohme
Research Laboratories**
Research Personnel (R80M-TL1)
P.O. Box 2000 Rahway, NJ 07065
EEO/AA/VH/Employer



MERCK & CO., INC.

The Board of Regents of the
University of Nevada System

PRESIDENT

Desert Research Institute

The Board of Regents of the University of Nevada System invites applications and nominations for the position of President of the Desert Research Institute. This autonomous statewide division of the university system conducts research programs in atmospheric sciences, water resources, energy and environmental engineering, social sciences and biological sciences funded by both governmental and private sources. Established in 1959, the Institute has a current annual budget of \$12 million and a faculty of 100 professionals. There is a close association between institute research and university graduate programs. The President reports through the Chancellor to the Board of Regents; the position is equivalent to President of the other university campuses. The President is responsible for management of a diverse but coordinated research institute, for relationships with the research sponsors, the university system, the Board of Regents, the legislative and executive branches of the federal and state government and should be prepared to play an active role in assisting economic diversification in the state of Nevada. Qualifications include demonstrated management and leadership abilities, a distinguished record of achievement in scientific or engineering research, a broad background in the funding and conduct of research, and proven effectiveness in the areas of governmental, university, and community relations. A record of successful and substantial institutional fundraising is important. The committee will begin a review of applications with vita including a list of publications and summary of career research and support, on May 1, 1987. To apply, or for further information, contact: DRI Presidential Search Committee, University of Nevada System, 405 Marsh Avenue, Reno, Nevada 89509. An equal opportunity, affirmative action employer.



**New Zealand
Dairy Research Institute**

DIRECTOR

Applications are invited for the vacancy created by the retirement of the Director of the New Zealand Dairy Research Institute from early January 1988. The appointment will be for an initial period of five years, with renewal(s) by mutual agreement.

The Institute undertakes research and development in all matters related to the conversion of milk into dairy products, including the market-oriented requirements of the New Zealand Dairy Board, through development work in new products and processes and functional variations of traditional ones. Other major activities include work for manufacturing dairy companies and the implementation of research findings.

Excellent laboratories and pilot plant are situated at Palmerston North adjoining the Massey University campus and adjacent to three major Divisions of the New Zealand Department of Scientific and Industrial Research.

The Institute's staff totals 235 (105 Research Officers). Current annual expenditure, including the associated small-scale dairy plant, is about NZ\$11.4 million.

Applicants should have a good degree in a relevant field, and have shown ability and leadership in research and the management of science/technology at a senior level. This experience should preferably include involvement in the identification and development of research projects in a commercially oriented environment.

The position carries a good level of remuneration related initially to qualifications and experience. Generously subsidized superannuation and a car are available.

Further information may be obtained from:

**The Director
N.Z. Dairy Research Institute
Private Bag
Palmerston North
NEW ZEALAND**

Applications, marked "Confidential" and addressed to The Chairman at the above address, should include personal details, curriculum vitae and the names of three referees. Applications close on 15 May 1987.

ANALYTICAL BIOTECHNOLOGY

MACROMOLECULAR ANALYSIS

T

he Drug Metabolism Department of Hoffmann-La Roche is expanding, creating methods development opportunities for novel isolation, characterization and quantification of novel peptide/protein drugs in clinical samples.

SR. SCIENTIST

You will be responsible for validated methods development. Requirements include Ph.D. and postdoctoral experience in Chemistry, Biochemistry, Immunology or a related field. The combination of Immunoassay, Bioassay and Chromatographic based quantification experience is highly preferred. **Please respond to Eleanor M. Malone, Dept. DL-1.**

ASSOCIATE SCIENTIST

You will assist in the above methods development, and must possess BS or MS in Chemistry, Biochemistry, Immunology or a related field, and 3-5 years of relevant experience. **Please respond to Fran Newman, Dept. DL-2.**

If selected, you will be rewarded with an attractive compensation package including salary, bonus and progressive benefits. For confidential consideration, please send your resume and salary (only those responses including present salary will be acknowledged), to the appropriate person and department at: **Hoffmann-La Roche Inc., Nutley, New Jersey 07110.** We are an equal opportunity employer.



Hoffmann-La Roche

Working Today For A Healthier Tomorrow.

POSITIONS OPEN

DIRECTOR OF CLINICAL TRIALS

International research organization concentrating on family health (including family planning) program seeks a Director for its Clinical Trials Group. Successful candidate will have an M.D., plus a master's level in pharmacology or a Ph.D. in pharmacology, pharmaceuticals, or closely related field with a minimum of 5 years of experience in planning, executing, and evaluating clinical drug development studies. Ph.D.'s in biostatistics with extensive clinical research management experience will be considered. Experience in drug regulatory affairs desirable. Must be well published. A working knowledge of at least one Third World country's health research capabilities and needs desirable. Demonstrated experience in preparation and review of research materials required. Superior location for good living and intellectual stimulation in Research Triangle area of North Carolina. Send résumé to: **President, Family Health International, 1 Triangle Drive, Research Triangle Park, NC 27709.** *An Equal Opportunity/Affirmative Action Employer, M/F/H.*

DIRECTOR OF RESEARCH RESOURCES FACILITY—D.V.M. licensed to practice in the District of Columbia with postgraduate training in laboratory animal medicine. ACLAM Diplomate or eligibility for certification desirable. Demonstrated interest and competence in research, administration, and communicative skills. The Director is responsible for the management, development, and accreditation of a new "state-of-the-art" animal facility consisting of approximately 25,600 gross square feet of floor area which serves the research and educational needs of the Georgetown University Medical Center. The position has administrative, secretarial, and staff support. The successful candidate is encouraged to develop his/her own research program and participate in collaborative research. Salary and academic appointment are commensurate with experience and qualifications. Position is available immediately. Send curriculum vitae and names of references to: **Dr. Peter A. Kot, Chairman, Search Committee, Department of Physiology and Biophysics, Georgetown University Schools of Medicine and Dentistry, 3900 Reservoir Road, NW, Washington, DC 20007.** *Georgetown University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY MEMBER/COLLEGE OR UNIVERSITY: CELLULAR IMMUNOLOGIST: primarily research position (1 year, renewable annually) to be offered at \$25,000 to \$32,000 per year depending on experience and qualifications; 40 hours per week. Responsibilities include: developing effective immunological agents and methods against livestock diseases coccidiosis and cryptosporidiosis; conducting and publishing independent research on cell-mediated immunity (CMI) to parasitic protozoa; supervising and advising graduate students and staff in the laboratory; assisting in teaching graduate seminars. Required qualifications: Ph.D. in immunology; 3 years of postdoctoral, research assistant, or professional research experience in T cell-, macrophage-, and lymphokine-mediated immunity; expertise in cell-mediated immunity to parasitic protozoa of humans and livestock; and an established record of publication in peer reviewed journals. Send a letter of application, curriculum vitae, and names and addresses of three references to: **Bozeman Job Service, ATTN: Nancy Leafdale, 121 North Willson Avenue, Bozeman, MT 59715.** Refer to Job #0518120. *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION UNIVERSITY OF CALIFORNIA, IRVINE

The Department of Physiology and Biophysics is seeking a faculty member with research interests in molecular, cellular, and/or structural aspects of biology. The appointment will be at the **ASSISTANT PROFESSOR** (tenure-track) level commencing fall, 1987 or winter, 1988. The successful candidate will be expected to conduct a vigorous, independent research program and contribute to the teaching of medical and graduate students. Applicants should have postdoctoral experience and demonstrated ability as a creative scientist. Send curriculum vitae, a brief description of research interests, and the names of three references to: **Professor Stephen H. White, Chairman, Department of Physiology and Biophysics, University of California, Irvine, CA 92717.**

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

POSITIONS OPEN

FACULTY POSITION. The Department of Biology at Viterbo College invites applications for a 1-year/possible tenure-track position at the assistant professor (Ph.D.) level. The successful candidate should have experience in teaching microbiology, biochemistry, and immunology. Application, including curriculum vitae, three letters of reference, undergraduate and graduate transcripts, and a one-page statement of teaching and research interests should be sent by 1 May 1987 to: **Dr. Linda Malick, Chairperson, Department of Biology, Viterbo College, 815 South 9th Street, LaCrosse, WI 54601.**

Viterbo College is an Equal Opportunity/Affirmative Action Employer.

FOREST SCIENTIST QUALITY ASSURANCE SPECIALIST

Northrop Services, Inc. (NSI) is seeking a qualified individual to assist in the Quality Assurance (QA) Program for research on the effects of atmospheric deposition on forest ecosystems, part of the National Acid Precipitation Assessment Program. The individual will interact with researchers, organize and interpret performance evaluations, audit research sites, and prepare QA reports. The QA Specialist will be located near Philadelphia, Pennsylvania. M.S. degree or equivalent experience in forest science or related environmental science is required. Laboratory experience required. Familiarity with forestry field measurements and greenhouse operation required. Communication skills, general knowledge of QA, and familiarity with atmospheric deposition research is desirable. Salary commensurate with qualifications. Send résumé and names of three references by 1 May 1987 to:

**Ms. Susan Carey
Northrop Services, Inc.
200 SW 35th Street
Corvallis, OR 97333**

NSI is an Affirmative Action/Equal Opportunity Employer

GLYCOPROTEIN/CARBOHYDRATE BIOCHEMIST

POSTDOCTORAL POSITION available for person trained in glycoprotein and/or carbohydrate biochemistry (particularly chromatographic methods for sugars, oligosaccharides, and glycopeptides) to participate in ongoing research concerning the role of protein glycosylation in photoreceptor membrane morphogenesis and retinal degenerations. Send curriculum vitae, recent reprints, and names of three references to: **Dr. Steven J. Fliesler, Bascom Palmer Eye Institute, University of Miami School of Medicine, P.O. Box 016880, Miami, FL 33101.**

MICROSURGEON

University of Pittsburgh Department of Surgery is seeking an outstanding individual to join the research efforts of its Microvascular Surgical Transplantation Laboratory. The microsurgeon will perform heterotopic heart transplants in rodents along with pre- and post-operative immunological monitoring of grafted animals. The ideal candidate will possess a M.S. degree with extensive experience in all aspects of microsurgery. A background in immunology is essential. Salary to low \$20's. Send résumé to: **Paul J. King, 172 Thackeray Hall, University of Pittsburgh, PA 15260.** *Affirmative Action/Equal Opportunity Employer.*

MOLECULAR BIOLOGIST

The Central Laboratory for Human Embryology in the Department of Pediatrics has a position at the research assistant professor level for a molecular biologist. Qualifications: M.D., Ph.D., or M.D./Ph.D., with postdoctoral experience in recombinant DNA technology. Candidate will be expected to direct a research program using human embryonic/fetal tissues and to participate in an NIH-funded tissue distribution program. Candidate will also be expected to interact with three faculty members whose research interests are in the field of teratology and to participate in a course entitled Human Embryology and Teratology offered each year. Applicants should send their curriculum vitae along with a list of three scientists who might supply supporting letters to: **Dr. Thomas H. Shepard, Head, Central Laboratory for Human Embryology, Department of Pediatrics RD-20, University of Washington, Seattle, WA 98195.**

POSITIONS OPEN

IMMUNOCHEMISTRY

Seragen Diagnostics, Inc., an Indianapolis-based manufacturer of instruments and reagents, has an immediate opening for an experienced scientist within the immunoassay products group. The position encompasses broad responsibilities from conception of technical ideas and reduction to practice to market introduction of new products.

The individual we seek should have 3 to 5 years of experience in immobilization of biological material in addition to experience in non-isotopic immunoassay development. The successful candidate should be highly self-motivated and goal oriented with strong oral and written communication skills. A Ph.D. is desired, but not necessary providing stated qualifications are satisfied.

Seragen Diagnostics offers competitive salary (commensurate with experience) and benefit programs. For prompt confidential consideration, please send résumé and salary history to: **Personnel Manager, Seragen Diagnostics, Inc., P.O. Box 1210, Indianapolis, IN 46206.**

Equal Opportunity Employer.

MOLECULAR BIOLOGIST/GENETICIST

Vivigen, Inc., a leader in genetic testing, has an immediate opportunity for a scientist with a Ph.D. to set up and run a DNA probe laboratory. The company currently operates the largest chromosome analysis laboratory in the country.

Candidates must be familiar with all aspects of molecular biology, especially nucleic acid hybridization and RFLP analysis. The successful candidate will direct an effort to industrialize DNA probe analysis, making the accurate processing of large sample volumes possible. This technology will be applied to a number of genetic tests. This position will also involve working with academic and industrial scientists in the transfer of technology to Vivigen.

Vivigen is located in Santa Fe, New Mexico, in the southern tip of the Rocky Mountains. The region is rich in culture, and has abundant resources for outdoor recreation. Santa Fe is an hour away from both the Los Alamos National Laboratory and the University of New Mexico Medical School, providing opportunity for interaction with the scientific community. The company will provide a salary commensurate with experience and an attractive package of benefits. Please contact: **Gregg L. Mayer, Ph.D., at 505-988-9744, or at the following address, for more information:**

**Vivigen, Inc.
435 St. Michael's Drive
Santa Fe, NM 87501**

MOLECULAR IMMUNOGENETICS

We are seeking an individual to coordinate development of a histocompatibility typing lab using nucleic acid hybridization technology. This program will involve the use of polymerase-catalyzed gene amplification, and of nonradioactive probes. The position will entail interaction with the immunogenetics section of the research division. Minimum requirements are an M.S. or equivalent with experience or a recent Ph.D. Please send résumé to:

**Richard H. Aster, M.D., President
The Blood Center of Southeastern Wisconsin
1701 West Wisconsin Avenue
Milwaukee, WI 53233**

NEUROPHYSIOLOGY RESEARCH position to conduct voltage-clamp studies on neurons in gastropod mollusks. Work will be in conjunction with behavioral, pharmacological, and histological studies, and will overlap with studies dealing with parallel processing. Ph.D. or equivalent research experience is required. Computer experience is desirable. Salary: \$18,000 to \$20,000. Available 1 July 1987 to 9 January 1989; extension possible. Closing date: 10 June 1987. Send three letters of reference and curriculum vitae to: **George J. Mpitsoos, Oregon State University, Mark O. Hatfield Marine Science Center, Newport, OR 97365.** *Equal Opportunity/Affirmative Action Employer.*

DIRECTOR, DIVISION OF SAFETY
Department of Health and Human Services
Public Health Service
National Institutes of Health
Office of the Director, Division of Safety

The National Institutes of Health is seeking applicants for the position of Director, Division of Safety. The position provides direction to the occupational medicine, occupational safety and health, environmental protection, radiation safety, security and emergency management program of the National Institutes of Health. Interested individuals must possess a high degree of technical competence and a broad managerial background in order to provide national leadership in laboratory safety, occupational and environmental health risks associated with biotechnology, disposal and treatment methodologies for hazardous research wastes, emergency preparedness and protection from external threats.

Candidates must possess three years of general experience and three years of specialized experience. At least one year of the specialized experience must have been at a level of difficulty comparable to that of the next lower grade in the Federal service. The general experience requirement may be substituted by a full four-year course of undergraduate study in an accredited college or university. Credit will also be given to graduate education in appropriate fields. Specialized experience is professional experience in occupational safety and health, industrial hygiene, industrial engineering, health physics, environmental protection, safety engineering or related scientific fields. In addition, candidates must possess: (1) expert knowledge of safety and occupational health, environmental health, emergency management and security programs and issues relative to a biomedical research environment; and (2) skill in program management and evaluation processes.

Desirable qualifications include: (1) Ph.D. or equivalent degree in an appropriate field; (2) extensive background in public health, environmental health or institutional health and safety programs.

The position will be filled through the Civil Service or Commissioned Corps of the Public Health Service. The salary range is \$53,830 to \$69,976. Benefits include a retirement plan, health and life insurance, sick and annual leave. Duty location is Bethesda, Maryland. Citizenship is required.

Applicants must submit a Personal Qualifications Statement—Standard Form 171. To receive consideration applications must be postmarked by May 4, 1987.

For additional information you may call: Ms. Nadgy P. Roey or Ms. Patricia Southcomb on (301) 496-6521 or write to National Institutes of Health, Office of the Director, Personnel Office, 9000 Rockville Pike, Bldg. 31, Room 1C23, Bethesda, Maryland 20892.

An Equal Opportunity Employer

PHARMACEUTICAL

**RESEARCH
ASSOCIATES**

The Squibb Institute for Medical Research, a recognized leader in the research and development of novel therapeutic agents, has several exciting opportunities available in the Department of Pharmacology. Responsibilities will be to conduct experiments in animals involving the measurement of cardiovascular and renal functions. Qualifications for these positions include a B.S. or M.S. in a biological science plus at least two years experience involving conscious animal models, small animal surgery and experimental hypertension.

The Squibb Institute is located in Princeton, NJ, a pleasant semi-rural setting convenient to both Philadelphia and New York. In addition to an excellent salary and comprehensive benefits package, we can offer the opportunity for exceptional scientists to pursue stimulating careers. For consideration, please submit your curriculum vitae to: **The Institute for Medical Research, Human Resources Department 435, P.O. Box 4000, Princeton, NJ 08543-4000.** An Equal Opportunity Employer.



SQUIBB

Where science comes to life.

**POSTDOCTORAL
RESEARCH
FELLOWSHIPS
MOLECULAR
BIOLOGY—
MOLECULAR
IMMUNOLOGY**

We are looking for Postdoctoral Research Fellows to join Dr. Mario Geysen's group working in a new era of drug development through the wide and systematic application of a unique peptide synthesis technology and concepts. Target areas cover virtually all therapeutic categories, e.g. hormone analogues, antiviral agents, vaccines, etc. A relevant PhD is essential with preference being given to candidates who have had one previous postdoctoral position.

These positions offer the prospect of independent research and publication will be strongly encouraged.

CSL is Australia's leading manufacturer of biologicals and has a strong commitment to Research and Development. The unique work in molecular immunology is conducted through Dr. Geysen's group and has very significant levels of funding and autonomy; the work is already being progressed on many fronts and through important international collaborative projects.

CSL's major facilities are located at Parkville which is four kilometers from the centre of Melbourne, and is in close proximity to the University of Melbourne, the Walter and Eliza Hall Institute of Medical Research and several other institutions.

We offer competitive salaries and travel and associated benefits for these 2 year appointments. Appointees will commence with us during the second half of 1987.

Please send a cv outlining your qualifications, description of scientific experience and the names of two referees, to Mr. E.D. Eade, Personnel Director, Commonwealth Serum Laboratories, 45 Poplar Road, Parkville, Vic. 3052, Australia, by 15 May 1987.

CSL COMMONWEALTH
SERUM
LABORATORIES

ASSISTANT PROFESSOR PHARMACOLOGY

THE PHILADELPHIA COLLEGE OF PHARMACY & SCIENCE invites applications for a tenure-track position in Pharmacology.

Candidates should have a PhD in Pharmacology with experience in the area of Cardiovascular Pharmacology. Preference will be given to individual with Post-Doctoral experience.

Candidates must be capable of mounting a vigorous research program in support of our graduate programs in Pharmacology and Toxicology.

In addition, they must participate in the teaching of undergraduate Pharmacy and Toxicology students. The position is to be filled on or before August 15, 1987.

Applicants should submit curriculum vitae and a list of references by May 1, 1987 to:

Mr. Gary L. Lage, PhD.
Chairman, Department of
Pharmacology & Toxicology

PHILADELPHIA COLLEGE OF PHARMACY & SCIENCE

Woodland Ave. at 43rd St.
Philadelphia, PA 19104

EOE

M/F/H/V

"The world expects excellence from Merck. Link your future with ours!" ENZYMOLOGISTS

Merck Sharp and Dohme Research Laboratories has several excellent opportunities available in the newly created department of Enzymology.

SENIOR RESEARCH BIOCHEMIST-Ph.D. in Biochemistry/Chemistry with two or more years of post-doctoral experience in enzymology. This position will involve purification of enzymes from mammalian sources, enzyme inhibition and catalysis kinetics, and enzyme mechanistic studies. The successful candidate should have a strong record of achievement as evidenced by publication in refereed journals. Excellent oral and written communication skills are essential.

STAFF BIOCHEMIST-Temporary and permanent positions are available for candidates with a B.S./M.S. in biochemistry or chemistry with experience in enzyme purification and a working knowledge of enzyme kinetics.

Merck Sharp & Dohme Research Laboratories is located in Rahway, New Jersey approximately 20 miles south of New York City. Our salaries, benefits, and growth potential are excellent.

Interested candidates should submit their curriculum vitae with a publication list, salary requirements, and the names of three references to: **Ms. Alaina L. Love, Merck & Co., Inc., P.O. Box 2000, R80M-TL1, Rahway, New Jersey 07065.**

EQUAL OPPORTUNITY EMPLOYER



Merck & Co., Inc.

A highly qualified Toxicology Center in Rome

is seeking an

EXPERIENCED SCIENTIST

endowed with great organizing qualities to fill a challenging top management position.

The successful candidate will be responsible for organizing the activities of the Center and for promoting its high scientific image. He will be assisted, whenever necessary, by internationally recognized experts.

An attractive salary—relative to qualification and experience—and cultural opportunities at the highest level are offered.

Qualified candidates are kindly requested to submit their curriculum vitae to:

A. MENARINI S.A.S.—Pharmaceutical Industries-
Via Sette Santi, 3
50131 Florence, Italy.

Correspondence will be kept strictly confidential.

Pharmacologist

The Procter & Gamble Company has an immediate entry level opening for a Ph.D. pharmacologist or physiologist with research experience in neuropharmacology and electrophysiology. The position is in the analgesic research program at Miami Valley Laboratories in Cincinnati, Ohio. The applicant should have a Ph.D. in pharmacology or physiology with 0-2 years postdoctoral research experience. Requirements include a good understanding of the *in vitro* techniques used to study the actions of neurotransmitters and novel drugs on neuronal function. Specific responsibilities will include studying the effects of novel analgesic compounds on the peripheral and central nervous system.

Besides offering a stimulating environment for professional growth, the company provides a competitive employment package including paid relocation, and Company-paid health, dental and profit sharing benefits.

Candidates must be U.S. citizens or hold a permanent resident visa. Resumes with list of publications should be sent to:

Dr. T. J. Logan, Manager
Ph.D. Recruiting
Pharmacologist Position
The Procter & Gamble Company
Miami Valley Laboratories
P.O. Box 39175
Cincinnati, Ohio 45247

Procter & Gamble

AN EQUAL OPPORTUNITY EMPLOYER

No agency referrals

RESEARCH INVESTIGATOR

G. D. Searle is a worldwide leader in the pharmaceutical industry. An outstanding opportunity exists for a qualified individual in our Research and Development Division located in the northern suburbs of Chicago.

Primary responsibilities include investigation of platelet-receptor ligand interactions. A strong background in platelet adhesion, activation, and aggregation, as well as the biochemistry and/or pharmacology of the coagulation system is required. The qualified candidate will have a Ph.D. and 1-3 years of experience with a good publication record in the field. The position has supervisory responsibility and requires strong interaction with members of the team.

Searle offers an excellent salary, high visibility, and good upward mobility. Qualified candidates please forward your resume in strict confidence to David Wackrow-UF9, G. D. Searle, Research and Development A-1, 4901 Searle Parkway, Skokie IL 60077. An Equal Opportunity Employer.

SEARLE

BIOCHEMISTS

Hercules Incorporated, a Fortune 500 Company involved in the development and production of chemicals, fibers, and plastics, has immediate openings for 2 Biochemists at its main Research facility in suburban Wilmington, Delaware.

The successful candidate will have a Ph.D. in Biochemistry, Biophysics, or a related area. Research activities will include the chemical and physical modification of proteins particularly collagen or other structural proteins. As principal investigator, responsibilities will include the generation and execution of new ideas for the modification of materials for appropriate uses. Experience in biochemistry and biopolymers is essential for successful performance in this position.

Hercules Incorporated offers a competitive salary in addition to a comprehensive benefits package. Qualified applicants should forward a resume with salary requirements to: James Jaquin, Supervisor, Human Resources.



Hercules Incorporated
Research Center
Wilmington, DE 19894
Equal Opportunity Employer

GROUP LEADER ENZYMOLGY

The Pharmaceutical Research Division of Warner-Lambert has an immediate opening for an outstanding Ph.D. in Enzymology to the position of Group Leader/Enzymology in our Biochemistry Section. The selected candidate will head a small team and will participate in a multidisciplinary environment, generating novel drug discovery strategies and evaluation techniques for a variety of therapeutic categories.

Qualified applicants will possess the following:

- Ph.D. in Enzymology
- A minimum of 5 years postdoctoral experience with a strong background in enzyme reaction mechanisms, techniques of enzyme purification and in vitro assay. Experience in the enzymology of arachidonic acid metabolism would be considered an advantage.
- Excellence in research and oral communication skills are essential as are proven supervisory skills.

We offer excellent compensation and benefits at our modern facilities adjacent to the University of Michigan campus. Qualified applicants should send curriculum vitae in confidence to: **Ms. S. Hultquist, Human Resources Representative, Warner-Lambert/Parke-Davis, 2800 Plymouth Rd., Ann Arbor, Michigan 48105.**

**WARNER
LAMBERT**

"EQUAL OPPORTUNITY IN ACTION"

Microbiologist

A **PhD level position** in Microbiology is available at Du Pont's Experimental Station. As a microbiologist, you will conduct independent research programs focusing on the molecular biology of gram positive bacteria and mechanisms of protein secretion in prokaryotes. To qualify, you should have post-doctoral training in microbial genetics, recombinant DNA technology and biochemistry, followed by experience directing an independent research program.

You'll find a highly stimulating scientific environment in a modern research facility located near Wilmington, DE. We offer excellent compensation and benefits including relocation. Our Mid-Atlantic location offers an attractive lifestyle with easy access to a wide range of academic, cultural and recreational activities. Interested candidates should send their resumes with salary requirements and references to: S.T. Toy, Employee Relations Department, Room X50734, Du Pont Company, Wilmington, DE 19898.



U.S. Citizenship or Permanent VISA Required.
An Equal Opportunity Employer M/F/H/V

FERROSAN RESEARCH DIVISION COPENHAGEN

The independent Division has during the last decade established several discovery drug research programmes based on novel neurobiological mechanisms with relation to most central nervous diseases. The innovative organisation will continue the strong commitment to research and development within neuropsychopharmacology.

Ferrosan Research Division is centrally located just outside Copenhagen.

With the expansion of our research we need:

EXPERIENCED BEHAVIORAL PHARMACOLOGIST

Applicants having at least 2 years experience in rodent behavioral pharmacology e.g. models for memory, tolerance development, withdrawal or abuse potential will be preferred. Please direct applications including full CV to:

Dr. Leif Helth Jensen
Head of Behavioral Pharmacology Dept.
A/S Ferrosan
Research Division
5 Sydmarken
DK-2860 Soeborg
Denmark
(Phone: (1) 69 21 11)

IDEC Incorporated

IDEC Incorporated, a recently formed biotechnology company located in Mountain View and La Jolla, California is a leader in research involving immunoregulation with anti-idiotype antibodies. IDEC is currently conducting clinical trials at leading institutions with its proprietary technology. IDEC currently has excellent career opportunities for the following positions:

Research Director: Experienced research manager sought to lead corporate research programs. Candidate must have a recent record in the conception, execution, and management of innovative biological research, preferably in a product oriented environment. Candidate must demonstrate the ability to contribute meaningfully to the corporate research and development planning process, and to successfully lead scientists in pioneering biological research. Suitable candidate should possess a Ph.D. and/or M.D. or equivalent degree specializing in cellular biology and/or immunology with several years of managing experience.

Senior Scientists/Research Scientists: All levels of scientists with experience in immunoregulation, anti-idiotype network immunobiology, and molecular immunology are sought. Successful candidates should have academic or industrial experience with the ability to lead research programs. Suitable candidates must possess a Ph.D., and/or M.D. or equivalent degree.

Research Assistants: Candidates should have at least two years experience in an immunology lab. Experience should include technical expertise in hybridoma antibody development, tissue culture, immunochemistry and related areas. Candidate must have a B.A./B.S. or M.S.

For prompt, fully confidential consideration, please send your resume to **Personnel Director, IDEC Incorporated, 291 North Bernardo Ave., Mountain View, Ca. 94043.**

An Equal Opportunity Employer.

PRECLINICAL RESEARCH

Corporate headquarters of the NutraSweet Company is expanding its Preclinical Research staff. The successful candidates will join a dedicated project team involved in the design, development, and assessment of chemical and food additive research.

PHARMACOKINETICIST

FIELD OF WORK AND DUTIES: Involved in metabolic assessment of new chemical candidates in support of new food additive petitions. Direct work in pharmacokinetics and development of bioanalytical methods is required. Expected to design and supervise studies related to absorption, distribution, metabolism, and excretion (ADME).

REQUIREMENTS: PhD in pharmacology/biochemistry/organic chemistry. Four to Seven years post degree experience in a pharmaceutical company, and solid interpersonal and oral/written communication skills. A strong background in isolation/identification of metabolites and experience within vivo and in vitro methods used for ADME studies and familiarity with GLP's are a real plus.

NEUROTOXICOLOGIST

FIELD OF WORK AND DUTIES: Involved in neurotoxicological/neuropharmacological assessment of new chemical candidates as well as conduct of both applied and basic research designed to support new food additive petitions. Interact with academic/industrial scientists; design study protocols, implement and monitor studies; review reports; monitor general toxicology studies as needed.

REQUIREMENTS: PhD in toxicology/pharmacology (neurotoxicology emphasis) 3-5 years post degree experience with pharmaceutical company. Solid interpersonal and oral/written communication skills, and familiarity with GLP's.

For consideration, send resume including salary history in confidence to:
**The NutraSweet Company, Employment Supervisor, Box 1111,
Dept. PN, Skokie, Illinois, 60076** equal opportunity employer m/f/h

The NutraSweet Company



Neurobiologist BS/MS

The Central Nervous System Research Unit of The Upjohn Company is building a group to develop strategies for the promotion of post-traumatic axonal regeneration and the treatment of neurodegenerative diseases. The successful Research Associate candidate will have a BS or MS degree plus at least one year of research experience in related neurobiological techniques. A research background in neurotrophic factors, extracellular matrix molecules, or neuronal development and response to injury is needed. Desirable techniques include: microsurgical implantation of prosthetic devices into experimental animals; immunohistochemical localization of neuronal markers in prepared specimens; and 2-D electrophoretic separation of isotope-labeled proteins. The position will include responsibility for laboratory organization, staff supervision, independent projects and preparation of research reports.

Kalamazoo is a medium-sized Southwestern Michigan community with access to a rich mix of cultural, educational and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for career growth, a competitive salary commensurate with experience, a comprehensive benefits program and relocation assistance.

For confidential consideration, please call from outside of Michigan toll free 1/800/253-8600, ext. 3-6767, (inside Michigan call collect 616/323-6767) to request an employment application be sent to you immediately. Please refer to ad number 21099-A when calling.

Upjohn

Our commitment to scientific excellence continues...

An Equal Opportunity Employer M/F

A Commitment to Excellence

The leadership enjoyed by our GIBCO/BRL product lines in the molecular and cell biology industries are evidence of our commitment to excellence.

As a division of Life Technologies, Inc., we have immediate openings for:

- **Molecular Biologist** — Ph.D. or M.S. degree in related field to do non-radioactive DNA detection and DNA-based diagnostic product development and/or *in/situ* methodology.
- **Histochemist** — Ph.D. or M.S. degree in related fields to develop *in/situ* hybridization methodology.
- **Assay Design Engineer** Ph.D., M.S. or B.S. degree in related field with extensive diagnostic development experience to work on user friendly DNA based diagnostic product formats.
- **Biochemist** — M.S. or B.S. degree in related field to do quality control of molecular biology and immunology product lines and/or production of phenol and formamide.

Our competitive salary and benefits combined with our geographic location make for a desirable atmosphere to build your career.

Other scientific positions are available.

Please submit your curriculum vitae to:

Mr. Richard L. Hotaling, Jr.
Personnel Manager
Life Technologies, Inc.
8717 Grovemont Circle
Gaithersburg, MD 20877

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

POSITIONS OPEN

PATHOLOGIST—Must qualify for a faculty appointment at the rank of Assistant to Associate Professor of Pathology, **Brown University**. Requirements include certification by the American Board of Pathology (AP/CP), training in hematopathology, experience and demonstrated capability in anatomic and clinical pathology, teaching, research, and administration. *The Miriam Hospital is an Equal Employment/Affirmative Action Employer*. Résumés should be sent by 1 June 1987 to: **The Chairman of the Search Committee, Sumner I. Zacks, M.D., Pathologist-In-Chief, The Miriam Hospital, 164 Summit Avenue, Providence, RI 02906.**

Ph.D. IN MOLECULAR BIOLOGY

Ph.D. in Molecular Biology desired for position in an Oncology Hospital—based research laboratory, to initiate research program involving: growth factors, oncogenes, and gene rearrangements in both solid and hematologic malignancies.

Individual with several years of postdoctoral experience as well as record of independent, original research preferred. Send curriculum vitae and reference letters to:

Larry Nathanson, M.D.
Winthrop-University Hospital
222 Station Plaza North
Room 300
Mineola, NY 11501

PHYSICS—Oakland University's Physics Department invites applications for a 1-year position as **VISITING FACULTY** for fall 1987, the rank to be determined by qualifications. Responsibilities include teaching two courses per semester and active participation in research. Minimum qualifications are a Ph.D. degree in physics or a related field and a record of research. Preference will be given to theorists and to experimentalists who can interact with existing programs although candidates in any subfield of physics will be considered. Send curriculum vitae including a statement of research interests and the names of three references to: **Professor B. K. Berger, Physics Department, Oakland University, Rochester, MI 48063, Telephone: 313-370-3416.** To be given full consideration, the application should be received by 15 May 1987. *Oakland University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minorities.*

Immediate opening for a **PLANT SCIENTIST** to support research and development activities related to the **Controlled Ecological Life Support System Program at Kennedy Space Center**. Ph.D. with minimum of 3 years of experience in greenhouse or growth chamber work related to crop sciences or biomass production required. Specific experience in crop management in closed systems, knowledgeable in hydroponic plant support, plant nutrition, plant pathology, plant physiological ecology or other related areas is preferred. Work with interdisciplinary team of engineers/scientists in operation and maintenance of a large closed plant growth chamber used in study of bioregenerative processes for food production and recycling of water, oxygen, and carbon dioxide. *Equal Employment Opportunity*. Submit curriculum vitae to: **J. R. Puleo, The Bionetics Corporation, BIO-1, Kennedy Space Center, FL 32899, by 8 May 1987.**

POPULATION, BEHAVIORAL, OR EVOLUTIONARY ECOLOGIST.

Indiana State University, Terre Haute, IN 47809. The Department of Life Sciences invites applications for a position as assistant professor (tenure track) beginning fall 1987. Applicants must possess a Ph.D. Applicants with research interests in terrestrial studies of animals or plant-animal interactions and a strong background in ecological and evolutionary theory are encouraged to apply. All applicants must have a strong interest in teaching and research at the undergraduate and graduate levels and in directing doctoral dissertations. Applicant must be a U.S. citizen or a permanent resident. Applications received after 10 May 1987 cannot be assured of full consideration.

Send curriculum vitae and three letters of reference to:

Dr. William J. Brett, Chairperson
Department of Life Sciences
Indiana State University
Terre Haute, IN 47809

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL FELLOW HYPERTENSION/RENAL

Wyeth Laboratories has a postdoctoral position available in the Hypertension/Renal Section to study the hemodynamic and renal actions of atrial natriuretic factor and other novel antihypertensives in conscious and anesthetized animals. Applicants must possess a doctorate in physiology or pharmacology with a strong research background in cardiovascular and/or renal function.

Position is located at our company headquarters in suburban Philadelphia, PA. Interested candidates are invited to send curriculum vitae and three letters of reference to: **Manager of Recruitment, Wyeth Laboratories, P.O. Box 8299, Philadelphia, PA 19101. Equal Opportunity Employer, M/F/V/H.**

POSTDOCTORAL POSITION available immediately for **BIOCHEMIST or BIOPHYSICIST**. Project involves use of UV laser to study the mechanism of action of an enzyme with antiproliferative and antiviral functions. Prior experience in laser technology not required. Salary range: \$19,000 to \$26,000. Send curriculum vitae and names of three references to: **Dr. Robert Silverman, c/o Civilian Personnel, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799.**

POSTDOCTORAL POSITION available in the **Department of Medicine, Harvard Medical School**, for a recent Ph.D. to study the control of blood cell differentiation. Current work focuses on the molecular biology and biochemistry of erythropoietin and its mechanism of action. Experience with molecular biological and/or protein biochemical techniques preferred. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. Arthur Sytkowski, New England Deaconess Hospital, 185 Pilgrim Road, Boston, MA 02215.**

POSTDOCTORAL POSITION—Reproductive Biology Laboratory, Case Western Reserve University. Laboratory focused upon receptor binding, protein kinases and phosphorylation in placenta, and amnion with correlation to hormone release. Also molecular biology of aromatase. Background in protein purification and molecular biology desirable. Salary: \$18,000 per year minimum. By 15 May 1987 send curriculum vitae and references to: **Dr. John J. Moore, Department of Pediatrics, Cleveland Metropolitan General Hospital, Cleveland, OH 44109.**

POSTDOCTORAL POSITION available to study DNA replication and cellular aging in yeast. Experience in yeast genetics and recombinant DNA techniques is desirable. Send curriculum vitae, including bibliography, and have three letters of reference sent to: **Dr. S. M. Jazwinski, Department of Biochemistry and Molecular Biology, Louisiana State University Medical Center (LSUMC), 1901 Perdido Street, New Orleans, LA 70112. LSUMC is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available September 1987 to a person interested in studying chloroplast evolution and the site of synthesis of various plastid proteins in algae using EM immunocytochemistry and in situ hybridization. Experience in electron microscopy is desirable. Send curriculum vitae and the names of three references to: **Dr. Sarah P. Gibbs, Department of Biology, McGill University, 1205 Dr. Penfield Avenue, Montréal, Québec, Canada H3A 1B1.**

Full-time **POSTDOCTORAL POSITION** available immediately for biophysicist trained in cellular electrophysiology to study calcium action in single neurons. Annual salary rate \$21,948 to \$27,360 depending on experience. The dependence of membrane currents and of transmitter release upon intracellular calcium activity will be measured using photosensitive calcium chelators. Presynaptic calcium will be measured during synaptic transmission and after post-tetanic potentiation using fluorescent or absorbance-indicating dyes. Send résumé, reprints, and two names of references to: **Dr. Robert Zucker, Department of Physiology-Anatomy, University of California, Berkeley, CA 94720.** Applications must be received by 8 May 1987. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for 2 or 3 years, to study expression of erythrocyte protein antigens and blood groups. Methodologies include hybridoma and immunochemical techniques, protein purification and sequencing, and cloning of erythrocyte membrane proteins. Experience in molecular genetics preferred; knowledge of immunology and/or glycoprotein biochemistry helpful. Spring 1987 graduates acceptable. Send résumé, summary of interests, and names of three references to: **Dr. M. Telen, Division of Hematology-Oncology, Box 3387, Duke University Medical Center, Durham, NC 27710. Duke University is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available for 2 or 3 years, from 1 July 1987 to study neuropeptide isolation, characterization, and receptor interaction in a well-equipped neuroendocrine laboratory. A strong background in biochemistry with training in peptide purification techniques, RIA, and cell culture of advantage. Send curriculum vitae and names of three references to: **Ivor Jackson, M.D., Director, Division of Endocrinology, Brown University/Rhode Island Hospital, 593 Eddy Street, Providence, RI 02902. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to study molecular mechanisms of visual transduction in vertebrate photoreceptors, using biochemical and immunological approaches. Background in protein purification, hybridoma production desirable. Please send curriculum vitae, copies of reprints, and three letters of recommendation to: **Dr. H. E. Hamm, Department of Physiology and Biophysics, University of Illinois College of Medicine at Chicago, Box 6998, Chicago, IL 60680. The University of Illinois is an Equal Opportunity Affirmative Action Employer.**

POSTDOCTORAL POSITION IN BIOPHYSICS

A 2-year position to continue work on the novel technique of **differential polarization microscopy** in the areas of (i) long-range organization of mammalian chromosomes, (ii) linear and circular dichroism and birefringence imaging studies in cytoskeleton is available.

The candidate will need a Ph.D. degree in biology and some training in optical biophysical chemistry and microscopy. Preference will be given to the applicant who has demonstrated ability in **subcellular isolation techniques, specific staining methods (including immunofluorescence)**, and has a practical knowledge in **computer instrument interfacing**.

Please send curriculum vitae, a letter of intent, and one letter of recommendation to: **Professor Carlos Bustamante, Chemistry Department, The University of New Mexico, Albuquerque, NM 87131.**

POSTDOCTORAL POSITION IN PRIMATE REPRODUCTIVE ENDOCRINOLOGY available immediately to Ph.D. to study peptide and steroid production by fetoplacental unit during baboon pregnancy. Background in reproductive endocrinology and U.S. citizenship essential. Send curriculum vitae to: **Eugene D. Albrecht, Ph.D., Department of Obstetrics and Gynecology, University of Maryland School of Medicine, 655 West Baltimore Street, Baltimore, MD 21201.**

POSTDOCTORAL POSITIONS

Research on ion channels and sensory transduction in microbes. Projects include stretch-activated channels, chemotaxis, and osmotaxis in *E. coli*; ion-channel mutants in yeast, cloning of mouse acetylcholine receptor genes into yeast; calmodulin-defective channel mutants and other channel mutants in *Paramecium*. Interdisciplinary training environment: patch clamp, recombinant DNA, protein chemistry, and microbial manipulations.

Salary commensurate with NIH guidelines. Send curriculum vitae and three references to: **Julius Adler (Department of Biochemistry), Ching Kung, or Michael Culbertson (Laboratory of Molecular Biology), University of Wisconsin, Madison, WI 53705.**

The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer. Applications from minority and women candidates and other qualified persons are encouraged.

Opportunities In Protein Biochemistry

The Protein Biochemistry Department in Biopharmaceutical Research and Development at Smith Kline & French Laboratories is seeking outstanding scientists with expertise in protein isolation and characterization. A variety of positions in process improvement and scale-up development as well as research in protein characterization (structure and function) are available.

ASSOCIATE SENIOR INVESTIGATOR (ref: PB 1)

Responsible for isolation of proteins from recombinant and natural sources and for developing procedures to produce biopharmaceuticals for clinical trials and commercialization. Responsibilities will include developing new protein purification methods amenable to large scale. The successful candidate will have a Ph.D. in Biochemistry or Biochemical Engineering and have at least two years postdoctoral experience in modern chromatographic techniques such as HPLC, ion exchange and affinity chromatography.

SENIOR SCIENTIST (ref: PB 2)

Responsible for planning, scheduling and supervising large scale protein purification according to cGMP's in order to support clinical supply needs and the development of commercial processes. Additional responsibilities will involve accumulating and analyzing laboratory and production data, collaboration with other scientists to develop appropriate scale-up procedures and the design of automated scale-up purification techniques. The successful candidate should have an MA/MS degree in a biochemical science with at least five years relevant experience or a BA/BS degree with at least eight years relevant experience in conducting experiments in large scale protein purification. Familiarity with regulatory guidelines, laboratory automation and preparation of products for human use is highly desirable.

ASSISTANT DIRECTOR (ref: PB 3)

Seeking a candidate with at least 8-10 years experience and strong record of scientific achievement in the field of hemostasis and/or

fibrinolysis. Must have distinct leadership skills and potential to grow in this area. Will manage six to ten scientists including Ph.D.'s and associates in discovery of novel thrombolytics and development of drug targets for use in rational design/discovery of pharmaceuticals. Strong skills in verbal and written communication needed. Prior experience in drug discovery and development is desirable but not a must.

POSTDOCTORAL SCIENTIST (ref: PB 4)

Responsibilities include developing new techniques for isolation and purification of recombinant proteins. The successful candidate will have a Ph.D. in Chemistry or Biochemistry with thesis work involving separation of proteins and other macromolecules. Experience in HPLC of biopolymers, counter current chromatography or preparative electrophoresis is preferred.

ASSOCIATE SCIENTISTS (ref: PB 5)

Two openings exist for associate scientists (BS/MS) with degrees in Biochemistry or in Chemistry or Biology with relevant biochemical experience.

Position A will focus on the preparation of novel protein separation media such as affinity sorbents or new HPLC supports, and the use of these materials to develop new protein isolation procedures. The successful candidate will have demonstrated skills in organic synthesis and protein isolation.

Position B will be devoted to the isolation and purification of natural and recombinant proteins both at bench and large scale and to the development of new high performance chromatographic procedures for purification of recombinant products. Strong candidates will have proven skills in protein purification and familiarity with HPLC and electrophoresis.

We offer an excellent compensation and benefits package and an attractive relocation policy as well as a work environment that offers considerable opportunity for personal and professional growth. For confidential consideration, send your C.V. and names of three references, citing the appropriate reference number listed above to Robert F. Obst, R&D Senior Employment Administrator, SmithKline Beckman Corporation, 1576 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

SK&F
A SmithKline Beckman Company

POSITIONS OPEN

POSTDOCTORAL POSITION/BIOPSYCHOLOGY

Available immediately at **Brooks Air Force Base, San Antonio, TX**. Studies of the effects of psychopharmacological and nutritional interventions on human performance and physiology will be conducted. Experience in psychopharmacology (especially human), electrophysiology, and use of laboratory computers desirable. Application cutoff date: 30 May 1987. Send résumé to: **Administrator, Clinical Research Center E17-445, Massachusetts Institute of Technology, Cambridge, MA 02319**.

POSTDOCTORAL POSITIONS IN MOLECULAR NEUROBIOLOGY are immediately available to study the regulation, expression, and structure of specific genes in the central nervous system. These genes include the amyloid gene of Alzheimer's disease (**Dr. C. G. Rasool**), genes involved in neuro-immune function like Interleukin-1 (**Dr. M. P. Vitek**), and various receptor genes (staff). A background in molecular biology or biochemistry is preferred. Please send curriculum vitae and names of three references to: **Dr. A. J. Blume, Molecular Neurobiology, CNS Biology, c/o Ms. Maureen Quigley, Professional Employment Representative, Lederle Laboratories, Pearl River, NY 10965. Equal Opportunity Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE

Position available for biochemical/biophysical studies of membrane structure and lipid-protein interactions. Opportunities to combine biochemical studies of membrane lipids and membrane receptor-ligand interactions with biophysical methods (calorimetry, x-ray/neutron diffraction, electron microscopy, NMR).

A doctorate in biochemistry, biophysics, chemistry, or related area is required. Please send curriculum vitae, list of publications, and names of three references to: **Dr. G. Graham Shipley, Bio-physics Institute, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118. Boston University is an Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITIONS IN NEUROBIOLOGY NEUROBIOLOGY RESEARCH CENTER

UNIVERSITY OF ALABAMA AT BIRMINGHAM MEDICAL SCHOOL

The University of Alabama at Birmingham has recently established a new Neurobiology Research Center. Several tenure-track faculty positions are available beginning September 1988 to be filled at any level (Assistant, Associate or Full Professor). Faculty will hold appointments in basic science departments (Physiology and Biophysics, Cell Biology and Anatomy, etc.) but be housed together in the Neurobiology Research Center. Faculty will strengthen existing research programs in integrative and cellular Neurobiology and extend the University's excellence in cellular and molecular biology to the Neurosciences. Excellent facilities, start-up funds and ongoing support are available.

Applicants in all areas of Neurobiology are encouraged to apply. Initial recruiting will place emphasis on integrative sensorimotor neurophysiology with attention to modeling, synaptic biophysics and molecular neurobiology of plasticity. Candidates should hold the Ph.D. or M.D. degree and have a minimum of 2 years postdoctoral experience. Successful candidates will be expected to maintain strong extramurally funded research programs. Teaching responsibilities are minimal.

Please send a curriculum vitae, statement of future research plans and names of 4 references to:

Dr. Michael Friedlander
Director, Neurobiology Research Center
Volker Hall
University of Alabama at Birmingham
Birmingham, Alabama 35294 U.S.A.

UAB is an equal opportunity/affirmative action employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE to study structure, molecular genetics, and endocrine regulation of glutathione transferases. Knowledge of recombinant technology and molecular endocrinology and spectroscopic theory required. Salary: \$26,000.

Please send résumé to: **Irving Listowsky, Ph.D., Department of Biochemistry, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461. An Equal Opportunity Employer.**

POSTDOCTORAL OR RESEARCH ASSOCIATE position available immediately to study biochemical basis for antiviral activity of novel nucleoside analogs. Experience in enzymology, nucleic acid biochemistry, and cell culture is desirable. Send résumé and three letters of reference to: **Dr. W. Prusoff, Department of Pharmacology, Yale University School of Medicine, New Haven, CT 06510. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE. Positions are now available to join a multidisciplinary group studying the structure and regulation of the genes for the catecholamine neurotransmitter biosynthetic enzymes. Applicants should have a strong background in either recombinant DNA technology or neurochemistry/neuropharmacology. Send curriculum vitae, statement of research interest, and the names of three references to: **Dr. Barry B. Kaplan, Molecular Neurobiology Program, Western Psychiatric Institute and Clinic, University of Pittsburgh School of Medicine, Pittsburgh, PA 15213.**

POSTDOCTORAL OR RESEARCH POSITION AVAILABLE IN MOLECULAR- CELLULAR IMMUNOLOGY FOR Ph.D. OR M.D.

Studies deal with human lymphokine regulation and cell and gene cloning as part of a major program on the induction of transplant tolerance. Salary range from \$24,000 to \$34,000, depending on prior experience.

Send curriculum vitae together with names of three references to: **Marvin R. Garovoy, M.D., Director, Immunogenetics and Transplantation Laboratory, HSE-520, University of California, San Francisco, Third and Parnassus Avenues, San Francisco, CA 94143.**

The University of California is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

POSTDOCTORAL RESEARCH ASSOCIATES

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

DEPARTMENT OF DERMATOLOGY POSTGRADUATE RESEARCH BIOCHEMIST

Ph.D., experience in cell biology and biochemistry. Incumbent will investigate the binding and processing of the angiotensin substance P and erythropoietin by endothelial cells and the induced cellular events/gene activation. Salary: negotiable.

Submit a letter of interest, curriculum vitae, and the names of five references to: **Dr. Tania L. Weiss, Dermatology Department—190, University of California San Francisco, VA Medical School, 4150 Clement Street, San Francisco, CA 94121. Filing deadline: open until filled.**

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

POSITIONS OPEN

RESEARCH ASSISTANT for hospital located in northeastern Ohio to conduct research, compile data and study reports on newborn babies being breast-fed; compile data pertinent to response of immature kidney to variable sodium and caloric load presented by breast milk in first few days of life. Requires M.D. (or equivalent degree/credentials determined to be equivalent to required U.S. degree by an approved credentials evaluation agency) or Ph.D. in physiology, and 6 months of experience in the job described or 6 months internship in pediatrics specializing in malnourished babies. Forty hours per week, \$22,000 per year. Qualified applicants reply immediately with résumé to: **R. Lechler, JO# 3032783, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

RESEARCH ASSISTANT PROFESSOR

Modern, well-equipped department of oral biology seeks individual with experience in molecular biology. Research interests should complement those of active departmental members including characterization of salivary glycoproteins and bacterial surface antigens. Participation in pre- and postdoctoral teaching is desirable. Send résumé and three letters of reference by 1 May 1987 to: **Chairman, Oral Biology, 3435 Main Street, Foster Hall, SUNY at Buffalo, NY 14214. An Equal Opportunity Employer M/F.**

RESEARCH ASSOCIATE with Ph.D. in electrical engineering or biophysics needed to participate in development and operation of a human motor physiology laboratory studying basic mechanisms underlying control of voluntary movement and motor disability caused by neurological disease. Physiological, electronics and computer programming experience required. Write to: **Timothy A. Pedley, M.D., Chairman, Committee on Appointments and Promotions, Department of Neurology, College of Physicians and Surgeons, 710 West 168 Street, New York, NY 10032. Columbia University is an Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE—Position available to study T-cell immune regulation in multiple sclerosis. Background T-cell fractionation, cloning, and lymphokine research preferred. Applicants should send curriculum vitae and names of three references to: **Jeffrey I. Greenstein, M.D., Department of Neurology, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, PA 19140.**

Equal Opportunity Employer.

RESEARCH ASSOCIATES: Two positions to study regulation of key enzymes involved in carbohydrate energy metabolism in complex biological systems, e.g. hepatocytes, synaptosomes etc. Ph.D. or M.D. required. Previous experience in enzymology/bioenergetics, and/or ion fluxes desirable. Submit curriculum vitae and have three letters of recommendation sent to: **Dr. Tarun B. Patel, Department of Pharmacology, University of Tennessee, Memphis, The Center for Health Sciences, 874 Union Avenue, 100 Crowe Building, Memphis, TN 38163.**

RESEARCH ASSOCIATE, EXPERIMENTAL HIGH ENERGY PHYSICS: Design, build, and install equipment for experimentation on Small Angle Proton-Antiproton Elastic Scattering at Fermilab Collider. Will be senior physicist in charge of the construction of drift chamber telescopes for the experiment. Record data from the experiment using a PDP-11 computer. Analyze the data using super-mini and mainframe computers. Write and publish results. (Will spend about 6 months per year at Fermilab and 6 months per year at Northwestern University.) Requires Ph.D. degree in experimental high energy physics. Also requires 1 year experience in the job to be performed or 1 year experience as a research assistant, experimental high energy physics. Experience to include data acquisition systems for high physics experiments, construction and operation of drift chambers, and the use of super-mini and mainframe computers. Experience can be during academic training. Hours: 9:00 a.m. to 5:00 p.m., 40 hours per week at \$24,000 per year salary. This is a university position. Please send résumé to: **Illinois Department of Employment Security, 401 South State Street, 3 South, Chicago, Illinois 60605. Attention: Robert S. Felton, Reference #V-IL 6908 F. An employer-paid ad.**



**THE UNIVERSITY OF
PAPUA NEW GUINEA**

Port Moresby

VACANCY

Applications are invited from suitably qualified persons for the following position:

**LECTURER/SENIOR LECTURER
IN BIOCHEMISTRY**

Basic Medical Sciences
Ref. No: W821004/87

The above position will become vacant in June 1987, in the Department of Basic Medical Sciences in the Faculty of Medicine. This Department undertakes the pre-clinical training of medical and dental students in Biochemistry, Anatomy, Pharmacology and Physiology, and is responsible for post-graduate courses in basic medical sciences. Departmental and interdepartmental research is encouraged. The successful applicant will have had experience in teaching biochemistry to medical students; it is the aim of this Department to present the pre-clinical medical subjects in a functional and clinically relevant context. Teaching/research experience in a developing country would be an advantage.

SALARIES

Senior

Lecturer — K22,015, pa plus 24% gratuity

Lecturer 2 — K20,165, pa plus 24% gratuity

Lecturer 1 — K18,315, pa plus 24% gratuity

Applications will be treated as strictly confidential and should include three copies of a full curriculum vitae, a recent small photograph, the names and addresses of three referees and date of availability. In order to expedite the appointment procedure, applicants are advised to contact their referees to send confidential reports directly to the University without waiting to be contacted. Applications should be forwarded to the Deputy Registrar (Staffing), University of Papua New Guinea, P.O. Box 320, University Post Office, Papua New Guinea.

Applications close 30 April 1987

**F P DIALA (MR)
REGISTRAR.**

HRA 8785

**POSTDOCTORAL
RESEARCH
OPPORTUNITIES
AT CSL AUSTRALIA**

We are looking for MOLECULAR BIOLOGISTS and MOLECULAR IMMUNOLOGISTS to join Dr. Mario Geysen's group working in a new era of drug development through the wide and systematic application of a unique peptide synthesis technology and concepts. Target areas cover virtually all therapeutic categories, e.g. hormone analogues, antiviral agents, vaccines, etc. Postdoctoral experience in an appropriate laboratory of high reputation, demonstrated ability to be innovative and the capacity to run a research project are essential.

These positions offer the prospect of independent research and publication will be strongly encouraged.

CSL is Australia's leading manufacturer of biologicals and has a strong commitment to Research and Development. The unique work in molecular immunology is conducted through Dr. Geysen's group and has very significant levels of funding and autonomy; the work is already being progressed on many fronts and several important international collaborative projects have been established.

CSL's major facilities are located at Parkville which is four kilometers from the centre of Melbourne, and is in close proximity to the University of Melbourne, the Walter and Eliza Hall Institute of Medical Research and several other institutions.

We offer competitive salaries, removal expenses and associate benefits for these appointments. Appointees will commence with us during the second half of 1987. The terms of the appointments are flexible in that we are prepared to equally consider those interested in a minimum of 2 year appointment or a longer term career opportunity.

Please send a cv outlining your qualifications, description of scientific experience and the names of two referees, to Mr. E.D. Eade, Personnel Director, Commonwealth Serum Laboratories, 45 Poplar Road, Parkville, Vic. 3052, Australia, by 15 May 1987.

CSL COMMONWEALTH
SERUM
LABORATORIES

POSITIONS OPEN

Applications are invited for the position of **RESEARCH ASSISTANT PROFESSOR** in the Department of Biochemistry from individuals with at least 2 years of postdoctoral experience in the biochemistry of blood coagulation. Qualified applicants with a proven ability to obtain extramural funding must possess extensive experience in the following areas: Purification of proteins associated with blood coagulation including factor V; characterization of blood clotting proteins utilizing synthetic phospholipid vesicles; development of monoclonal antibodies; enzymology, including steady-state and rapid-reaction kinetics, hysteretic transients, steady-state transient analysis and the use of active-site directed inhibitors; fluorescence techniques including stopped-flow, fluorescence polarization and the use of fluorescent probes to define macromolecular complex assemblies. Salary \$30,000 per year; 40 hours per week. Respond to: **Robert Mattson, Supervisor Job Service, Department of Employment and Training, P.O. Box 488, Montpelier, VT 05602.**

RESEARCH ASSOCIATE to devise and carry out the synthesis of biologically active peptides like complement component C-3 and C-5a, human interferon and mouse cysteine proteinase and other unnatural proteins like betabellins, introducing active and binding sites to mimic the natural enzymes. Ph.D. in organic chemistry with 1 year of experience in peptide chemistry, to include working knowledge of the synthesis of peptides and proteins and experience using HPLC, NMR, and TLC. Salary \$22,000. Contact: **The Job Service at 317 Caldwell Street Extended, Chapel Hill, NC 27514, or the Job Service Office nearest you. Refer to Job Order # NC 6103932.**

RESEARCH PROGRAM CHIEF ALFRED I. DUPONT INSTITUTE OF THE NEMOURS FOUNDATION

The Alfred I. duPont Institute is a growing children's hospital dedicated to multispecialty patient care, research, and education. The Institute plans to implement a new research and development program concerned with the application of digital electronic and computer technology to the needs of our handicapped patient population. We are seeking a senior-level scientist-engineer to provide leadership for this program. This individual should possess an advanced degree(s) in electrical engineering, computer science or biophysics, and demonstrated experience in the application of these fields to adaptive human physiology for handicapped individuals.

Interested applicants please forward curriculum vitae and names of three references to: **Charles R. Hartzell, Ph.D., Director of Research, The Alfred I. duPont Institute of the Nemours Foundation, P.O. Box 269, Wilmington, DE 19899. Equal Opportunity Employer.**

RESEARCH STAFF MEMBER: Performs independent research on polymeric materials for optical recording and optical device applications. Research includes: elucidation of molecular structure—mechanical, thermal, optical property relationships, including design and development of measurement methodologies, data analysis and modeling; building of prototype optical devices (recording discs, optical elements, patterned substrates) and testing of performance lifetime characteristics; building of electrical/semiconductor test devices for evaluating polymer properties and optical prototype performance characteristics; requires Ph.D. or equivalent in applied physics with emphasis on polymeric materials (if no Ph.D., then strong record of independent research required); 2 years of research experience with optical and electrical properties of polymer; strong background in polymer structure-property relationships [requires experience with thermal analytical techniques, mechanical analytical techniques, dielectric techniques, x-ray (small and wide angle), IR spectroscopy]; experience with processing of polymer materials including blending of polymers, extrusion of films and modeling of polymers; working knowledge of solid-state devices including metal-polymer-semiconductor test structures, piezo—and pyroelectric polymers, liquid crystalline polymers, optical devices; demonstrated ability to carry out independent research and publish results. Forty hours per week; \$52,000 per year. Job and interview site: San Jose, CA. Send this ad and résumé to: **Job #MA2771, P.O. Box 9560, Sacramento, CA 95823-0560, not later than 2 May 1987. Equal Opportunity Employer.**

POSITIONS OPEN

RESEARCH ASSOCIATES IMMUNOLOGY/PROTEIN BIOCHEMISTRY AND MOLECULAR BIOLOGY ROSWELL PARK MEMORIAL INSTITUTE

Several positions for research associates with 2 years of postdoctoral experience are available to study the mechanisms of immune system regulation by biological response modifiers. Projects within the group are flexible, ranging from isotype-switch regulation in the IgA system to activation of gene expression by lymphokines and hemopoietic growth/differentiation factors. Salary will be commensurate with background and experience. Please send curriculum vitae, statement of research interests, and names of three references to:

Thomas B. Tomasi, M.D., Ph.D.
Director, Roswell Park Memorial Institute
Chairman, Department of Molecular Medicine
and Immunology
Roswell Park Memorial Institute
666 Elm Street
Buffalo, NY 14263

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SENIOR RESEARCH PHYSICIST. Perform fundamental and applied research on the preparation of physical, electrical, and optical properties of amorphous semiconductors; constructing integrated circuit devices and identifying aspects which lead to business opportunities; lead work in Amorphous Semiconductor Group of the Physical Technology Division of Corporate Research at firm's Research Center. Ph.D. in physics required with 3 years of experience in the job offered or 3 years of experience as Chief Physicist and/or Group Leader, Amorphous Semiconductors and Optoelectronic Program. Experience as Chief Physicist and/or Group Leader requires investigation of thin-film amorphous semiconductors and developing optoelectronic devices and other III/V compound semiconductor devices. Forty hours per week, M/F, 8:30 a.m. to 5:00 p.m., \$67,000 per year. Send résumé and Social Security Number to: **Illinois Job Service, 401 South State, 3 South, Chicago, IL 60605, Attn: Mr. L. Boksa, Reference #6683. An employer-paid ad.**

RESEARCH BIOLOGIST VA Medical Center, St. Louis, Missouri requires professional background in microbiology, biochemistry and veterinary medicine and experience in purification techniques and eukaryote DNA cloning. Salary: \$27,172 per annum. To apply contact: **Ms. Blair, (05-JB) VA Medical Center, St. Louis, MO 63125. Telephone: 314-894-4676. Equal Opportunity Employer.**

KEUKA COLLEGE KEUKA PARK, NEW YORK

Entry-level, **TENURE-TRACK** position to teach **KINESIOLOGY and NEUROANATOMY/PHYSIOLOGY** to occupational therapy majors, and to carry some responsibility for anatomy and physiology and/or comparative animal physiology. Keuka College is a independent coeducation college located in the Finger Lakes region of upstate New York. Applications consisting of curriculum vitae, three letters of reference, and transcripts should be submitted by 15 May 1987 to: **Dr. J. E. White, Chairman, Division of Natural Sciences, Keuka Park, NY 14478.**

TWO POSTDOCTORAL POSITIONS MOLECULAR BIOLOGY OF HUMAN LEUKOCYTES BETH ISRAEL HOSPITAL HARVARD MEDICAL SCHOOL

Available immediately for Ph.D.'s in molecular biology, preferably with experience in gene cloning and sequencing. One position to study human granulocyte/monocyte differentiation through the cloning of and analysis of gene expression of myeloid specific antigens. The second position, with long-term grant support, is available for a new Ph.D. or more senior research associate to work on gene cloning, regulation of expression, structure and function of major proteins of human eosinophilic and basophilic leukocytes. Send curriculum vitae and three letters of reference to: **Dr. Steven J. Ackerman or Dr. Daniel G. Tenen, Department of Medicine, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.**

POSITIONS OPEN

DEPARTMENT OF PATHOLOGY UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE

Applications are solicited for a **TENURE-TRACK FACULTY POSITION** in anatomical pathology, with a major commitment to neuropathology and neuromuscular disorders. Minimum requirements are: medical degree, certification by the American Board of Pathology in anatomical pathology (anatomical and clinical pathology certification desirable), and neuropathology. At least 5 years of experience in neuropathology, and the ability to sustain an investigative and research program in neuropathology with past experience in the development of a research program. The position will require teaching experience at graduate and postgraduate level with medical student and house officer contact. Applicants should send curriculum vitae to: **Jack M. Layton, M.D., Head, Department of Pathology, University of Arizona College of Medicine, Tucson, AZ 85724. An Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.**

SUMMER INSTITUTE

FIFTH SUMMER INSTITUTE IN RISK MANAGEMENT IN ENVIRONMENTAL HEALTH AND PROTECTION

16 to 19 June 1987. Legal, financial, and decision-making aspects of risk management; risk perception, risk communication; quantitative risk assessment. Emphasis upon hazardous and toxic waste problems. Bachelor's degree or equivalent required. Write: **Summer Institute in Risk Management/Graduate School of Public Administration, New York University, 4 Washington Square North, New York, NY 10003; or telephone Professor Zimmerman at: 212-598-3725.**


SYMPOSIUM

SYMPOSIUM: Swainsonine and related glycosidase inhibitors, 10 to 14 August 1987, at Utah State University, Logan, Utah. Topics include comparison of induced and genetic glycoprotein storage disease; effects of glycosidase inhibitors (e.g., swainsonine, 1-deoxynojeremycin) on glycoprotein and carbohydrate processing; chemistry and biology of glycosidase inhibitors (synthesis; toxicology; sources). Oral presentations or posters welcome. Contact: **L. F. James, Poison Plant Research Laboratory, 1150 East 1400 North, Logan, UT 84321; telephone: 801-752-2941, or C. D. Warren 617-726-3748; R. J. Molyneux 415-486-3557; Alan Elbein 512-567-3750.** Title deadline: 1 June 1987

FELLOWSHIPS


POSTDOCTORAL FELLOWSHIP IN DEVELOPMENTAL RESPIRATORY CONTROL IN RELATION TO NEUROMODULATORS. The successful applicant (M.D./Ph.D.) will have experience with nerve/CNS recordings, microiontophoresis. Please send letter, résumé, and three references to: **I. R. Moss, M.D., Ph.D., Director, Pediatric Pulmonary Division, The University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9063. An Equal Opportunity Employer.**

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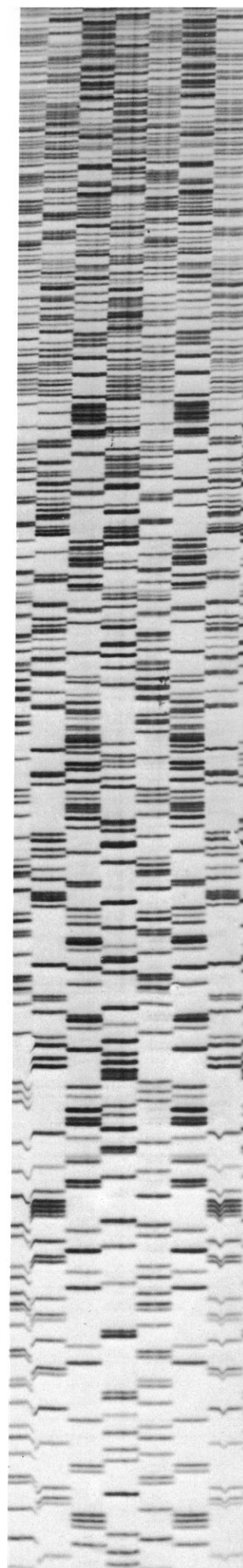
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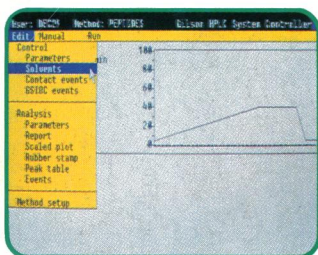
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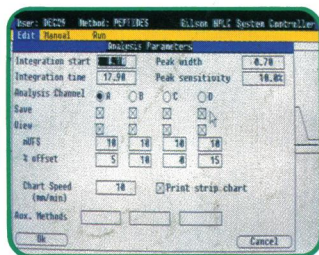
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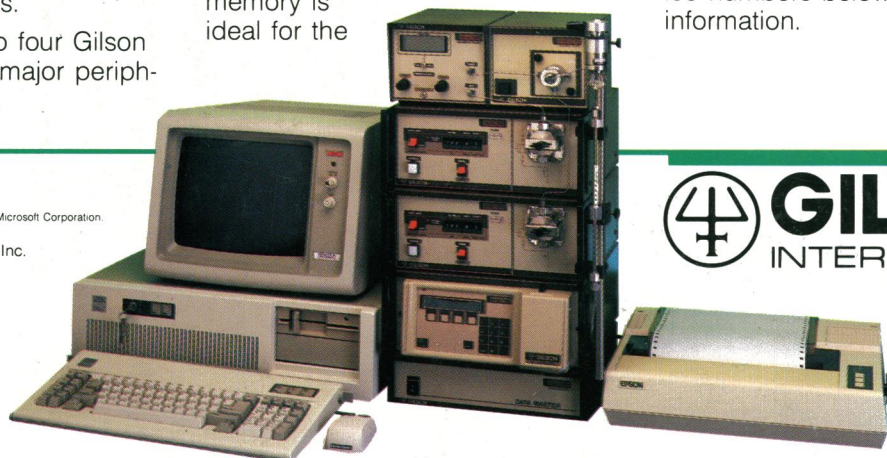
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