

risks of radiation. This is a serious allegation because the method is the cornerstone of radiation risk assessment. I think the argument is incorrect. The doubling dose is defined as the dose required to give a rate of mutation equal to twice the spontaneous rate, irrespective of the molecular basis of the mutations. However, the issue is moot since Sankaranarayanan concludes that the doubling dose method should not be abandoned anyway.

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## Ceramics and Territory

**Stylistic Boundaries among Mobile Hunter-Foragers.** C. GARTH SAMPSON. Smithsonian Institution Press, Washington, DC, 1988. 186 pp., illus. \$31.50. Smithsonian Series in Archaeological Inquiry.

A decade ago C. Garth Sampson and his research team undertook an archeological survey of some 5000 square miles in the South African central plateau, where they located 16,000 archeological sites and observed a "staggering amount" of surface archeological material, primarily lithics and ceramics. This amazing yield led Sampson to undertake a systematic survey of the upper valley only—a mere 2000 square miles, which is ambitious by any archeological standards—with the goal of collecting the ceramics, which came from 987 localities. This monograph is the analysis of *some* of those ceramics: about 7043 decorated sherds deriving from a minimum of 2815 bowls. Its explicit aim is to elucidate the territorial (that is, sociopolitical) boundaries of the Stone Age peoples who occupied the Upper Seacow Valley.

The people who are believed to have left the remains are termed Bushmen or "para-historic" hunter-foragers (not gatherers or collectors, although the data to support the label forager are admittedly not yet available). The name Bushmen is intended to distinguish them from the living Kalahari San, whose precise genealogical and cultural relationship to them is not discussed or considered necessarily relevant, and the analogies that are drawn (and drawn often!) from the Kalahari San are said not to be direct historic analogies.

The archeological remains of the Bushmen hunter-foragers are usually referred to as the Smithfield industry and can be traced back to the 14th or even the 8th century A.D. in various locales in southern Africa. Since excavations in two stratified rock-

shelters in the Upper Seacow valley yielded some European materials in the uppermost centimeters of deep (38-centimeter) accumulations of Smithfield materials, it may be that Bushmen occupied the area into the late 18th and early 19th century, but we are given no "earliest" dates for their presence or any sense of how much time is represented by the surface collections analyzed here. This lack of chronological context is a significant problem that is not adequately addressed.

Moving easily from ethnoarcheological and ethnographic observations of the Kalahari San to the Upper Seacow River archeological context, Sampson envisions that the Upper Seacow Bushmen were highly mobile and undertook periodic (band?) movements between waterholes and shorter-term family or individual movements in and out of camp. Chapter 1 generates the model of a band territory that predicts the distribution of "emblemic style," in the terminology of Wiessner, as drawn from and then mapped back onto the core-area, annual-range, lifetime-range mobility patterns known from ethnographic observations of several families of the Dobe !Kung.

More than 70% of the book is given over to the ceramic analysis, which involves a suite of methodological operations and mappings to infer the "spatial organization of style" and refers back to the "predictive model" set out in the first chapter. One can only marvel at the combination of assumptions, techniques, and interpretative musings that yield a variety of patterns in the spatial distributions of various decorative motifs and techniques. Since the unquestioned "bedrock assumption" (p. 171) is that there are stylistic boundaries that are, in turn, "signaled" by ceramic motifs, Sampson pursues various methods in order to figure out "how boundaries are likely to reveal themselves" (p. 171).

For the student of spatial analysis in archeological research, there is a gold mine here: isopleth maps, isometric distribution maps, analyses and mapping of accumulative percentage differences, for example, that are considered in light of such factors as topographic variables (such as presence of river channels or mountain ranges) and problems of sample size. A critical reading of how the maps may create as much as "reveal" boundaries could be a valuable exercise for a graduate seminar. There must be at least 150 maps and figures in just 170 pages, not including the dozens of close-up photos of the various rocker stamp and non-rocker (small spatulate and double-tip stylus, for example) motifs on ceramic sherds.

Overall, the book is written in an eloquent style that, however, often begs the

most interesting issues. Despite the impressive archeological fieldwork and ingenious and meticulous analysis, Sampson never really engages the difficult conceptual framework of "style" or the question why these Bushmen would have "sent" stylistic messages about "group" in ceramic motifs. There is not (yet?) any archeological support for the problematic notion that pottery decoration as group signaling would first appear under conditions of stress induced by scarce resources or population crowding. Despite the fact that a rich, diverse, and contested literature on style exists, there is no real questioning of Wiessner's types of style ("emblemic" and "assertive"), and the most interesting interpretative issues are taken up only in a 5-page final chapter. In the end, we are left with rather unsatisfying observations about the archeological study of style: since we have yet to be able to use lithics to make inferences about style, and since this hunter-forager context offers thousands of ceramics that appear more amenable to such decoding, there is adequate justification for a stylistic analysis. But the really interesting contextual question that this work implies is avoided: why, in this particular social and historical context, would ceramic motifs have been sociopolitically meaningful to and symbolically deployed by the Bushmen hunter-foragers?

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## Books Received

**Asbestos and Other Fibrous Materials.** Mineralogy, Crystal Chemistry, and Health Effects. H. Catherine W. Skinner, Malcolm Ross, and Clifford Frondel. Oxford University Press, New York, 1988. x, 204 pp., illus. \$35.

**Atmospheric Ozone Research and Its Policy Implications.** T. Schneider *et al.*, Eds. Elsevier, New York, 1989. xviii, 1047 pp., illus. \$192.75. Studies in Environmental Science, vol. 35. From a symposium, Nijmegen, The Netherlands, May 1988.

**Atomic and Molecular Beam Methods.** Vol. 1, Giacinto Scoles *et al.*, Eds. Oxford University Press, New York, 1988. xxiv, 721 pp., illus. \$95.

**Biological Waste Treatment.** Avshalom Mizrahi, Ed. Liss, New York, 1989. xiv, 296 pp., illus. \$79.50. Advances in Biotechnological Processes, vol. 12.

**The Biology of Nematocysts.** David A. Hessinger and Howard M. Lenhoff, Eds. Academic Press, San Diego, CA, 1988. xii, 600 pp., illus. \$75. From a symposium, Irvine, CA, Aug. 1986.

**The Biology of Polar Bryophytes and Lichens.** R. E. Longton. British Bryological Society and Cambridge University Press, New York, 1988. viii, 391 pp., illus. \$95. Studies in Polar Research.

**Cellular Basis of Immune Modulation.** J. Gordon Kaplan, Douglas R. Green, and R. Chris Bleackley, Eds. Liss, New York, 1988. xxviii, 656 pp., illus. \$120. Progress in Leukocyte Biology, vol. 9. From a conference, Banff, Alberta, May 1988.

**Coffee.** Gordon Wrigley. Longman Scientific, Harlow, U.K., and Wiley, New York, 1988. x, 639 pp., illus. \$148. Tropical Agriculture Series.

**Communications Satellite Handbook.** Walter L. Morgan and Gary D. Gordon. Wiley-Interscience, New York, 1989. xxxviii, 900 pp., illus. \$69.95

**Dragon Mask Temples in Central Yucatan** (1952–1972). Francis S. Murphy. Scribe, Hong Kong, 1988 (Distributor, the author, Hong Kong). viii, 81 pp., illus. \$65.

**Drug and Alcohol Use.** Issues and Factors. Stanley Einstein, Ed. Plenum, New York, 1989. x, 385 pp., illus. \$95. Based on a congress, Jerusalem, Israel, Sept. 1981.

**Ecology and Our Endangered Life-Support Systems.** Eugene P. Odum. Sinauer, Sunderland, MA, 1989. xii, 283 pp., illus. Paper, \$14.95.

**Electrum.** Chemical Composition, Mode of Occurrence, and Depositional Environment. Naotatsu Shikazono and Masaaki Shimizu. University of Tokyo Press, Tokyo, 1988 (U.S. distributor, Columbia University Press, New York). vi, 81 pp., illus. \$44.50.

**Elementary Equilibrium Chemistry of Carbon.** Grant Urry. Wiley-Interscience, New York, 1989. xvi, 223 pp., illus. \$39.95.

**Environmental Management Handbook.** Toxic Chemical Materials and Wastes. Dekker, New York, 1989. xvi, 632 pp. \$125.

**L'Esprit Musicien.** La Psychologie Cognitive de la Musique. John A. Sloboda. Mardaga, Brussels, 1988. 396 pp., illus. Paper, BF 1450. Psychologie et Sciences Humaines. Translated from the English edition (New York, 1985). by Marie-Isabelle Collart.

**The Foundations of Human Genetics.** Krishna R. Dronamraju. Thomas, Springfield, IL, 1989. xiv, 211 pp., illus. \$40.75.

**Fractals Everywhere.** Michael Barnsley. Academic Press, San Diego, CA, 1988. xii, 394 pp., illus., + plates. \$39.95.

**The Future of Public Health.** Institute of Medicine. National Academy Press, Washington, DC, 1988. xiv, 225 pp. Paper, \$19.95.

**Image and Signal Processing in Electron Microscopy.** Peter W. Hawkes *et al.*, Eds. Scanning Microscopy International, Chicago, 1988. vi, 396 pp., illus. \$60. *Scanning Microscopy* supplement 2 (1988). From a conference, Niagara Falls, Ontario, April-May 1987.

**Immunity to Cancer.** II. Malcolm S. Mitchell, Ed. Liss, New York, 1989. xxii, 520 pp., illus. \$90. Progress

in Clinical and Biological Research, vol. 288. From a conference, Williamsburg, VA, Nov. 1987.

**Implications of the Blood-Brain Barrier and Its Manipulation.** Edward A. Neuwelt, Ed. Plenum, New York, 1987. 2 vols. Vol. 1, Basic Science Aspects. xxx, 403 pp., illus. \$75. Vol. 2, Clinical Aspects. xxxiv, 633 pp., illus. \$100.

**Living with Radiation.** Henry N. Wagner, Jr., and Linda E. Ketchum. Johns Hopkins University Press, Baltimore, 1989. x, 189 pp. \$17.95.

**Marine Invertebrate Fisheries.** Their Assessment and Management. John F. Caddy, Ed. Wiley-Interscience, New York, 1989. xvi, 752 pp., illus. \$79.95.

**Mathematical Models of Chemical Reactions.** Theory and Applications of Deterministic and Stochastic Models. P. Erdi and J. Tóth. Princeton University Press, Princeton, NJ, 1989. xxiv, 259 pp., illus. \$59.50. Non-linear Science.

**Metal-Ligand Multiple Bonds.** The Chemistry of Transition Metal Complexes Containing Oxo, Nitrido, Imido, Alkylidene, or Alkylidyne Ligands. William A. Nugent and James M. Mayer. Wiley-Interscience, New York, 1988. xiv, 334 pp., illus. \$55.

**Mind Matters.** How Mind and Brain Interact to Create Our Conscious Lives. Michael S. Gazzaniga. Houghton Mifflin, Boston, and MIT Press, Cambridge, MA, 1989. xvi, 255 pp. Paper, \$8.95. Reprint, 1988 ed.

**Models of Brain Injury Rehabilitation.** Rodger L. Wood and Peter Eames, Eds. Johns Hopkins University Press, Baltimore, 1989. xii, 242 pp. \$45. Johns Hopkins Series in Contemporary Medicine and Public Health.

**Modern Drug Research.** Paths to Better and Safer Drugs. Yvonne Connolly Martin, Eberhard Kutter, and Volkhard Austel, Eds. Dekker, New York, 1989. xvi, 507 pp., illus. \$125. Medicinal Research Series, vol. 12.

**Neuroreceptors and Signal Transduction.** Shozo Kito *et al.*, Eds. Plenum, New York, 1988. x, 367 pp., illus. \$72.50. Advances in Experimental Medicine and Biology, vol. 236. From a symposium, Hiroshima, Japan, Oct. 1987.

**The New Physical Optics Notebook.** Tutorials in Fourier Optics. George O. Reynolds *et al.* SPIE—The

International Society for Optical Engineering, Bellingham, WA, and American Institute of Physics, New York, 1989. xvi, 568 pp., illus. Paper, \$60; to SPIE members, \$48.

**Physical Optics and Light Measurements.** Daniel Malacara, Ed. Academic Press, San Diego, CA, 1988. xiv, 341 pp., illus. \$69.50. Methods of Experimental Physics, vol. 26.

**The Physiological Control of Mammalian Vocalization.** John D. Newman, Ed. Plenum, New York, 1988. xvi, 435 pp., illus. \$85. From a symposium, Washington, DC, and Poolesville, MD, Nov. 1986.

**Polytene Chromosomes in Genetic Research.** V. Sorsa. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1988. 289 pp., illus. \$54.95. Ellis Horwood Books in Gene Technology.

**Pour la Psychologie Scientifique.** Histoire, Theorie, et Pratique. Paul Fraisse. Mardaga, Brussels, 1988. 382 pp. Paper, BF 1450. Psychologie et Sciences Humaines.

**Principles of Lasers.** Orazio Svelto. 3rd ed. Plenum, New York, 1989. xiv, 494 pp., illus. \$39.50. Translated from the Italian by David C. Hanna.

**Principles of Population Genetics.** Daniel L. Hartl and Andrew G. Clark. 2nd ed. Sinauer, Sunderland, MA, 1989. xvi, 682 pp., illus. \$39.95.

**Programmed Capitalism.** A Computer-Mediated Global Society. Maurice Estabrooks. Sharpe, Armonk, NY, 1989. xiv, 207 pp., illus. \$24.95.

**Synthetic Peptides in Biotechnology.** Avshalom Mizrahi, Ed. Liss, New York, 1988. xii, 239 pp., illus. \$69.50. Advances in Biotechnological Processes, vol. 10.

**The Technical Writer's Handbook.** Writing with Style and Clarity. Matt Young. University Science Books, Mill Valley, CA, 1989. xiv, 232 pp. \$22.50.

**Thermal Conduction in Semiconductors.** C. M. Bhandari and D. M. Rowe. Wiley, New York, 1988. xx, 224 pp., illus. \$24.95.

**Thermoregulation.** Research and Clinical Applications. P. Lomax and E. Schönbaum, Eds. Karger, Basel, 1989. xiv, 250 pp., illus. \$106. From a symposium, Odense, Denmark, Aug. 1988.

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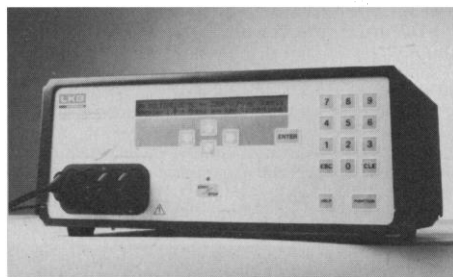
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HHF35, a monoclonal antibody to actins of skeletal, smooth, and cardiac muscle. Enzo Diagnostics. Circle 489.

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### *Literature*

*Immunological Reagents* is a catalog of almost 400 immunological reagents, lectins, and other detection products for immunohistochemistry, blotting, enzyme immunoassays, fluorescent microscopy, and cell sorting. Vector Laboratories. Circle 524.

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*Consider the Possibilities* is a brochure about integrated high-performance liquid chromatography systems. Milton Roy, LDC Division. Circle 504.

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*Instruments for Liquid Chromatography and Sample Preparation* summarizes a line of chromatography instruments. Gilson Medical Electronics. Circle 506.

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Clinical pathology position at the University of Arizona as full-time **ASSISTANT PROFESSOR**, tenure track. Physician or other scientific specialist with demonstrated research capability in one or more fields of clinical pathology, particularly clinical chemistry or transfusion medicine. We are especially interested in someone experienced in the applications of molecular biology techniques. The candidate will be expected to devote most of his or her time to the development of a strong research program and to related teaching. Consideration for this position closes 1 October 1989 or when the position is filled. Submit curriculum vitae and letters of interest to: **Dr. Douglas W. Huestis, Department of Pathology (Transfusion Medicine), University of Arizona College of Medicine, Tucson, AZ 85724.** Telephone: 602-626-6269. The University of Arizona is an Equal Opportunity/Affirmative Action Employer.

### ASSISTANT PROFESSOR ENDOCRINOLOGY/REPRODUCTIVE PHYSIOLOGY UNIVERSITY OF VERMONT

Applications are invited for a tenure-track, 9-month appointment; 60% research, 40% teaching. Qualifications include a Ph.D. in animal sciences, endocrinology, or related discipline, experience in undergraduate teaching and achievement in research. Preference given to people with postdoctoral experience and ability to maintain a fundable research program. Salary competitive and commensurate with experience. Submit application, curriculum vitae, and names and addresses of three referees by 15 October 1989 to: **Dr. J. W. Pankey, Animal Health Lab, 655C Spear Street, South Burlington, VT 05403.** The University of Vermont is an Equal Opportunity/Affirmative Action Employer. Women and minority candidates are encouraged to apply.

**PARASITOLOGIST.** The Seattle Biomedical Research Institute (SBRI) invites applications for the position of **SENIOR SCIENTIST** (equivalent to an associate or full professor). Junior candidates may be considered for the position of **STAFF SCIENTIST** (equivalent to assistant professor). SBRI is a non-profit institute that conducts basic biomedical research in a cooperative, scientist-oriented environment. Current programs focus on basic molecular biology, immunology, and molecular and immunological parasitology. The successful candidate should have an externally funded, independent research program that employs molecular, biochemical, and/or immunological approaches. Please send curriculum vitae, a brief statement of proposed research, and names of three references, by 15 August 1989 to: **Search Committee, Seattle Biomedical Research Institute, 4 Nickerson Street, Seattle, WA 98109-1651.** Equal Opportunity Employer.

## POSITIONS OPEN

**ASSISTANT RESEARCH PROFESSOR** in biophysical chemistry. A position is available immediately to conduct grant-supported study of thermodynamic linkages in the regulation of transcription. The successful candidate should have training and expertise in biophysical chemistry of protein and protein-nucleic acid assembly. Practical experience in molecular biology is essential. Strong commitment to independent research and experience in supervision of technician/student are required. Applications should be submitted with curriculum vitae, publications, and three letters of reference by 31 July 1989 to: **Dr. James C. Lee, Department of Biochemistry and Molecular Biology, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, MO 63104.** *St. Louis University is an Equal Opportunity/Affirmative Action Employer.*

Anatomy Department seeks **ASSISTANT/ASSOCIATE PROFESSOR** expert in cell, molecular, and developmental biology. The successful applicant should have an independent program and cooperate with colleagues within and outside the department. Send curriculum vitae to: **Dr. Dale E. Bockman, Department of Anatomy, Medical College of Georgia, Augusta, GA 30912-2000.** *An Equal Opportunity/Affirmative Action Institution.*

### RESEARCH ASSOCIATE BIOCHEMIST AND/OR JUNIOR FACULTY POSITION

Multidisciplinary group interested in developing novel therapeutic strategies for melanoma therapy based on cytotoxic melanin precursors seeks a Ph.D. chemist/biochemist with experience related to melanin synthesis, intermediary metabolism, or anti-melanoma pharmaceutical development. Unique opportunity for creative scientists to work independently and in collaboration with a team of organic chemists, biochemists, and cell biologists in a well-funded laboratory with modern facilities for synthetic, organic, and radiosynthetic chemistry, analytical biochemistry, tissue culture, and in vivo animal studies. Competitive salary commensurate with education and experience. *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.* Interested applicants should send curriculum vitae to:

**William D. Bloomer, M.D.**  
Professor and Chairman  
Department of Radiation Oncology  
University of Pittsburgh  
230 Lothrop Street  
Pittsburgh, PA 15213

**BIOLOGY:** One-year teaching position at **INSTRUCTOR OR ASSISTANT PROFESSOR** level; 9-month contract, 1 September 1989 to 17 June 1990; possibility position may become permanent; major teaching responsibility human anatomy and physiology and introductory biology; Ph.D. preferred but M.S. with experience will be considered; teaching load, 15 credit hours per quarter. Augusta College is a 4-year, 5000-student, senior unit of the University System of Georgia. The Committee will begin reviewing applications on 23 June 1989; final deadline for application will be 17 July 1989. Send curriculum vitae and names, addresses, and telephone numbers of references by 17 July 1989 to: **Dr. John B. Black, Department of Biology, Augusta College, Augusta, GA 30910.** *Augusta College is an Affirmative Action/Equal Opportunity Employer.*

### CELL BIOLOGIST

ProCyt Corporation seeks a Ph.D. cell biology for innovative research in skin health and wound healing. Qualified candidates will have solid academic training and, preferably, postdoctoral or industry experience in histology, angiogenesis, receptor binding, cell turnover, and tissue analysis.

ProCyt is located "across the lake" from Seattle and is a fast-paced research and development pharmaceutical company. We have significant patented technology in a proprietary tripeptide that acts as a signal factor in promoting healing.

ProCyt offers competitive benefits and equity participation in the company. For information and/or consideration, please contact: **Human Resources, 2893 152nd Avenue N.E., Redmond, WA 98052.** Telephone: 206-867-1820.

**PROCYTE CORPORATION**  
*Equal Opportunity Employer.*

## POSITIONS OPEN

The Department of Biochemistry and Biophysics at the University of Pennsylvania plans to appoint a tenured **ASSOCIATE PROFESSOR** with an established program in structural studies of protein nucleic acid complexes and protein-protein complexes and with expertise in computational techniques to study protein-protein interactions. Please send curriculum vitae and three letters of recommendation to: **Dr. Franz Matschinsky, Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA 19104-6059.** Deadline: 1 August 1989. *Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply.*

The University of Pennsylvania and Children's Hospital of Philadelphia is recruiting a broadly trained **BIOCHEMIST** with Ph.D. and over 10 years of "hands-on" research experience in biochemical development. Also required is a strong background and experience in organic chemistry including synthesis of organic compounds for probing renal membrane transport of substrate analogs and applicant should have knowledge and experience in protein chemistry, enzymology, and cell culture. The candidate will be expected to provide his/her own research funding. The applicant should have sufficient experience to qualify for appointment at the assistant professor level in the department of pediatrics, University of Pennsylvania School of Medicine, an *Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae and three letters of reference to: **Stanton Segal, M.D., Children's Hospital of Philadelphia, Department of Biochemical Development and Metabolic Diseases, 34th Street and Civic Center Boulevard, Philadelphia, PA 19104.**

### BIOLOGICAL OCEANOGRAPHY: POSTDOCTORAL POSITION

Postdoctoral research associate available 1 July 1989 or thereafter to participate in an interdisciplinary study of carbon and nitrogen dynamics in the Ross Sea. Experience using isotopes in field studies preferred. Salary begins at \$24,000; position renewable for up to 3 years. Send curriculum vitae and names of three references to: **Dr. Walker Smith, Ecology Program, University of Tennessee, Knoxville, TN 37996.** *UTK is an Equal Employment Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

### DIRECTOR SEA GRANT INSTITUTE UNIVERSITY OF WISCONSIN-MADISON

Applications and nominations are invited for the Directorship of the Sea Grant Institute at the University of Wisconsin-Madison. The Institute administers the Wisconsin Sea Grant College Program, a statewide organization of research, education, and outreach focused on the Great Lakes and ocean environment. We are seeking an established marine scientist with a strong record of research and teaching who can qualify for tenure at the University of Wisconsin-Madison. He or she must have significant experience in research management and a demonstrated ability for scientific leadership. Interested candidates should submit a letter of application, current curriculum vitae, list of publications, and names of at least four references before 15 September 1989 to: **Dean of the Graduate School, 333 Bascom Hall, University of Wisconsin-Madison, Madison, WI 53706.** *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

### PENNINGTON BIOMEDICAL RESEARCH CENTER ANNOUNCES

Opening for **DIRECTOR OF OBESITY RESEARCH.** A tenure-track appointment in Louisiana State University School of Medicine. Must have Ph.D. or M.D. and 5 to 10 years of experience in human obesity research with demonstrated familiarity with physiology, anatomic, and cellular studies in obesity; appropriate publication record requested. Demonstrated ability to procure funding desirable. Qualified candidates should send their application by 15 July 1989 to:

**Dr. George Bray, Director**  
Pennington Biomedical Research Center  
6400 Perkins Road  
Baton Rouge, LA 70808

*LSUMC is an Equal Employment Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**BIOMEDICAL ENGINEER** for employer in northeast Ohio to design and develop rehabilitation devices and electrically powered and computer-controlled myo-electric prosthetic devices. Conduct biomechanical evaluations of orthotic devices. Manage all computerized medical information systems (software). No experience required, but must have M.S. in biomedical engineering with academic program to have included one course each in biomedical computing, physiological and medical mechanics, biomedical instrumentation, and rehabilitation engineering. Forty hours per week, 8:00 a.m. to 5:00 p.m. \$31,000 per year. Qualified applicants reply with résumé and course transcript (no calls) to: **C. Bussard, JO#0055027, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

### DEAN OF THE COLLEGE OF AGRICULTURE UNIVERSITY OF WYOMING

The University invites applications and nominations for the position of Dean of the College of Agriculture.

The position: The Dean reports to the Provost and is responsible for academic, administrative, personnel, and fiscal management for the College, including the Agricultural Experiment Station and the Cooperative Extension Service.

Requirements: Proven leadership qualities and a vision of the future in agriculture and of the College, as well as an understanding of the land-grant system and education, research, extension, and service functions, are required. Candidates must have nationally recognized professional competence in one of the academic disciplines in the College of Agriculture.

Applications should include curriculum vitae and the names, addresses, and telephone numbers of four references who may be contacted. The application deadline is 11 September 1989. For more information, call: 307-766-3103 or address correspondence to:

**Dr. James K. Wangberg, Chair**  
Search Committee for Dean of Agriculture  
Office of the Provost  
Box 3302, University Station  
Laramie, WY 82070  
Fax: 307-766-2271

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

### DIRECTOR L. P. MARKEY CANCER CENTER UNIVERSITY OF KENTUCKY

The University of Kentucky is searching for a new director of its established cancer center. The center occupies over 84,000 square feet of new well-equipped space for its research, clinical, and education programs. Six core facilities have been established: macromolecular structure, flow cytometry, protocol studies, hybridoma production, electron microscopy and biostatistics. The University has committed more than \$20 million to upgrade research instrumentation and the Center was a major beneficiary of these funds. An enthusiastic membership of 120 faculty support the research programs of the Center. The University is located in the Bluegrass region of Kentucky, an exceptionally beautiful area. The search committee will begin reviewing files 1 July 1989. Reply with curriculum vitae to: **Mary Sue Coleman, Ph.D., Chair, Search Committee, Room 209 Combs Building, 800 Rose Street, Lexington, KY 40536-0093.** *Women and minorities are encouraged to identify themselves.*

*The University of Kentucky is an Equal Opportunity Employer.*

### GLOBAL CLIMATE CHANGE

The World Resources Institute, a policy research and analysis center in Washington, D.C., seeks to fill a position within its interdisciplinary Climate, Energy and Pollution Program. Primary responsibilities are analysis and development of international and domestic policy options for global climate change and participation in related projects such as energy policy. The candidate must be able to write clearly on technically based policy issues, should have experience in policy development and/or a Ph.D. or equivalent degree in an appropriate field such as economics, engineering, or science. Rank is open, and salary will reflect experience. *WRI is an Equal Opportunity Employer.* Send a writing sample and curriculum vitae by 20 July 1989 to **Dr. William R. Moomaw, World Resources Institute, 1709 New York Avenue, Washington, DC 20006.**



## POSITIONS OPEN

### FACULTY POSITION ALBERT EINSTEIN COLLEGE OF MEDICINE NUCLEIC ACID ENZYMOLOGY

The Department of Biochemistry at the Albert Einstein College of Medicine is seeking an assistant professor interested in the enzymology of nucleic acid metabolism. Structure or mechanism of enzymes of nucleic acid replication, transcription, degradation, covalent modification or processing are of interest. Related areas are also of interest. Applicants should send a current curriculum vitae, the names of at least three references, a summary of ongoing research interests, and a brief proposal of future research plans. Submit applications to: **Dr. Julius Marmur, Department of Biochemistry, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.** Applications will be reviewed beginning 15 July 1989. *The Albert Einstein College of Medicine of Yeshiva University is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITIONS ALBERT EINSTEIN COLLEGE OF MEDICINE METABOLIC SIGNALING

The Department of Biochemistry at Albert Einstein College of Medicine is seeking faculty with research interests in metabolic signaling. Appointments as assistant professor are preferred; higher ranks are possible depending on experience. Structural and mechanistic approaches to the enzymes and/or proteins of signal transduction pathways are preferred areas of research. Research related to diabetes will be given extra consideration. Applicants should submit a current curriculum vitae, the names of at least three references, a summary of research interests, and a proposal of future research plans. Submit applications to: **Dr. Sasha Englund, Department of Biochemistry, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.** Applications will be reviewed beginning 15 July 1989. *The Albert Einstein College of Medicine of Yeshiva University is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITIONS ALBERT EINSTEIN COLLEGE OF MEDICINE X-RAY CRYSTALLOGRAPHY

The Department of Biochemistry at the Albert Einstein College of Medicine is seeking faculty with experience in the application of x-ray crystallography to biochemical problems. Two tenure-track positions are available at ranks to be determined by prior experience. Facilities and resources are available to develop a complete, modern facility which will be constructed to the specifications of the crystallography faculty. Applicants should send a current curriculum vitae, the names of at least three references, a summary of research interests and a brief proposal of future research plans. Submit applications to: **Dr. Howard Steinman, Department of Biochemistry, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.** Applications will be reviewed beginning 15 July 1989. *The Albert Einstein College of Medicine of Yeshiva University is an Equal Opportunity/Affirmative Action Employer.*

**INSECT NEUROBIOLOGIST.** Full-time tenure-track appointment at the rank of assistant professor. We seek candidates having research interests in areas such as: integrative functions of the insect CNS, neuroendocrine mechanisms, neurogenetics, neurodevelopment, neuron physiology, and pharmacology. Appointee will teach an undergraduate course in general insect physiology and conduct graduate seminars. Applicants should have a Ph.D. and should demonstrate outstanding potential for research and teaching. Applications should include the following: (i) Curriculum vitae, academic transcripts, and evidence of teaching skills and experience; (ii) bibliography and selected reprints or manuscripts; (iii) statement of research objectives and approaches proposed; (iv) names and addresses of at least three people who can provide recommendations. Submit all materials by 1 August 1989 to: **D. L. Wood, Chairman Department of Entomological Sciences, 201 Wellman Hall, University of California, Berkeley, CA 94720.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

## RESEARCH SCIENTISTS AND ASSOCIATES EXPERIMENTAL IMMUNOLOGY

**Amgen** is a leading biotechnology company with a broad scientific and technical base involved in the identification, isolation, development and application of new medical therapeutics utilizing recombinant DNA and hybridoma technologies. Amgen currently has several major programs addressing the biological roles of Human Lymphokines, Cytokines and Growth Factors. Our advances in these areas have made us a leader in the field of Biological Response Modifiers.

Recent progress in these programs has created opportunities for Research Scientists and Research Associates. Candidates for Research Scientist positions must have a Ph.D. or M.D. degree and at least two years of post-doctoral or equivalent experience involving a range of immunological methodologies. Research Associate candidates must have a BS or MS degree and a strong background in research relevant to biological response modifiers.

**Amgen** offers a stimulating research environment and maintains a close association with academic institutions through research collaborations and its Scientific Advisory Board.

**Amgen** also offers an excellent salary and benefits package as well as equity participation. Applications, including a curriculum vitae and three references, should be sent, in confidence, to:

**AMGEN, INC.  
Recruitment, Dept. #402  
1900 Oak Terrace Lane  
Thousand Oaks  
CA 91320**

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# AMGEN

## STAFF POSITION

### Synthetic Organic Chemist

The National Stable Isotope Resource at Los Alamos is seeking a creative chemist with expertise in organic syntheses to develop novel and general methods for preparing nucleic acids, carbohydrates and amino acids specifically labeled with  $^{15}\text{N}$ ,  $^{13}\text{C}$  and  $^{17,18}\text{O}$ . He/she will have the opportunity to develop a nationally recognized research program in his/her own area of interest. In addition to a demonstrably excellent scientific background, the successful applicant must have the verbal and written skills along with the initiative and leadership qualities necessary to obtain research funding from external agencies.

Applicants must have a PhD or equivalent training in chemistry or biochemistry and have experience in synthetic organic chemistry. Areas of required technical knowledge include LC/HPLC, g.l.c.,  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectroscopy. For additional information, contact **James A. Fee, INC-4, C-345, Los Alamos National Laboratory, Los Alamos, NM 87545, (505) 667-0774.**

To formally apply, submit a detailed resume to **Ray Archuleta (MS P280), Personnel Services Division 90402-CC, Los Alamos National Laboratory, Los Alamos, NM 87545.**

Affirmative Action/Equal Opportunity Employer. Must be able to obtain a Department of Energy Security Clearance.

University of California

# Los Alamos

## POSITIONS OPEN

**ELECTRON MICROSCOPIST**—Laboratory Manager for Integrated Microscopic Analysis Facility at University of South Carolina. Individual will be responsible for daily operation of JEOL 100 and 200 CX, JEOL 35 SEM, image analysis and ancillary equipment. Individual should be familiar with sample preparation for EM including immunocytochemical techniques, operation of the instruments, and management of a laboratory. Salary commensurate with qualifications. Send curriculum vitae and names of references to: **Dr. Thomas Borg, Department of Pathology, University of South Carolina, Columbia, SC 29208.** USC is an Affirmative Action/Equal Opportunity Employer.

**ENGINEER, MATERIALS AND SCIENCE RESEARCH:** Will be involved in three different major projects. Will use innovative technique to develop (i) high temperature ceramics superconductor fibers and films via sol-gel technology. The ceramic superconductor developed should operate at or near 90 K with appropriate critical current density in form useful for the nation's defense and commercial applications; (ii) sol-gel or resin coating method for carbon and ceramic fibers as reinforcement in carbon-carbon or ceramic matrix composites for structural application in hot sections of the gas turbine engine; (iii) method of synthesis for preparation of high temperature glass, glass ceramics, and polycrystalline matrices to be reinforced with fibers, whiskers, and/or particulate materials. M.S. in materials science engineering and/or polymer chemistry and 3 years of experience in job offered or Ph.D. in materials science engineering with graduate thesis and/or laboratory experience in high temperature composite materials research and development required. Job and interview site: San Diego, California. Salary: \$41,800 per year; 40 hours per week. Send this advertisement and your résumé to: **Job #ET4933, P.O. Box 9560, Sacramento, CA 95823-0560** not later than 7 July 1989.

**FACULTY POSITION: MOLECULAR VIROLOGY.** The Division of Molecular Virology at Baylor College of Medicine invites applications for a tenure-track faculty position at the assistant or associate professor level. An innovative scientist is sought with training and research interest in molecular aspects or pathogenesis of retrovirus infections (preferably AIDS retrovirology). Applicants should have a Ph.D. with at least 2 years of productive postdoctoral experience in molecular virology. The successful applicant is expected to establish an independent research program and to participate in graduate training in an expanding academic department. Newly renovated laboratories and well-equipped support facilities, including containment areas for HIV research, are available. Current faculty research activities focus on the molecular basis of viral replication, viral and cellular oncogenes, viral pathogenesis, viral vectors for gene therapy, and modern approaches to viral vaccines. Send curriculum vitae, names and addresses of at least three references, and a description of current research activities and future plans by 1 September 1989 to: **Dr. Janet Butel, Head, Division of Molecular Virology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030.** An Equal Opportunity/Affirmative Action Employer.

### STAZIONE ZOOLOGICA "A. DOHRN" DI NAPOLI

The "Stazione Zoologica" of Naples is establishing a new program in "Molecular Biology" preferably, but not necessarily, related to the molecular basis of evolution and differentiation.

A temporary position of **HEAD** of the new program is open based on a contract for 3 to 5 years. The experience level of the applicants should be at least equivalent to that of associate professor or head of a research laboratory, and candidates should have proven capacity of directing a small research group in biochemistry, genetics, or molecular biology. Candidates from all countries will be considered, but Italian nationals must already be an employee of a University or other research organization, due to the temporary nature of the position.

Adequate laboratory space, full basic equipment, and a team of at least four professional and/or technical research assistants will be provided. Salary will be based upon previous research experience and scientific qualifications.

Applications should be sent to:

**Stazione Zoologica "A. Dohrn" di Napoli  
Villa Comunale  
80121 Napoli, Italy**

## KERNFORSCHUNGSANLAGE JÜLICH GmbH

The KFA is a national research centre jointly funded by the Federal Republic of Germany and the State of North Rhine—Westphalia with a staff of about 4500. Our major research priorities are in the fields of: properties of condensed matter and materials research; basic research for information science; medical research, environment, biotechnology; energy research and energy technology; nuclear fusion and nuclear physics.

At the *INSTITUTE OF BIOLOGICAL INFORMATION PROCESSING* there is a vacancy for a

### DIRECTOR (C4)

The Institute conducts research into the molecular mechanisms of cellular signal processing in biological systems. A long-term goal is to achieve an understanding of these mechanisms on the basis of the interactions of biological macromolecules. In this connection, it is planned to establish a Department of

### BIOLOGICAL STRUCTURAL RESEARCH

to be headed by the appointee (male or female). The Institute as a whole will be supervised jointly with the present Head of Institute.

It is expected that the candidate should be engaged in work to elucidate with physical methods the structure of biomolecules. He/she should be able to demonstrate outstanding research achievements in this field and be capable of heading a scientific institute. Particular emphasis is placed on the candidate's willingness to cooperate with other KFA Institutes, particularly Biotechnology, Medicine and Solid-State Research, as well as with universities, industry and other research institutions.

In a joint procedure together with a university in North Rhine—Westphalia, the Institute Director will be appointed to a chair and then seconded to take over the appointment at the KFA. The salary will conform to the C4 scale of the German Civil Service; "Habilitation" or equivalent scientific qualifications are required.

Applications accompanied by a curriculum vitae, a list of publications and a short description of previous scientific activities should be submitted by July 31, 1989 to the



Vorstand der  
Kernforschungsanlage Jülich GmbH  
Postfach 1913  
5170 Jülich  
Federal Republic of Germany



## BIOLOGIST

**SIGMA CHEMICAL COMPANY**, a leading international producer and distributor of laboratory biochemicals, is seeking self-motivated professionals to join our quality team. We have established a new and rapidly expanding line of tissue culture products and have immediate opportunities for experienced Technical Service and Quality Assurance personnel.

Ideal candidates will possess:

### TECHNICAL SERVICE/LABORATORY

- BS, MS, or PhD in science
- At least 5 years of Tissue Culture experience
- Strong communication and writing skills
- Desirable related expertise:
  - experience with growth factors, attachment factors, serum free media, hybridomas, and insect cultures
  - industrial experience
  - QA experience
  - an understanding of cGMPs, CFRs, and SOPs

### QUALITY ASSURANCE

#### Microbiologist

- BS, MS in science
- At least 2 years of tissue culture or microbiology experience
- Desirable related expertise:
  - virology and fluorescent antibody staining
  - industrial experience
  - an understanding of cGMPs, CFRs, and SOPs

#### Reviewing Chemist

- BS, MS in science
- At least one year of QA/QC experience
- An understanding of cGMPs, CFRs, USP, and SOPs
- Strong communication and writing skills

We can provide a competitive salary and a full company-paid benefits package. For consideration please send your resume with salary history to:

**SIGMA  
CELL CULTURE  
REAGENTS**

Personnel Manager (CAM)  
**SIGMA CHEMICAL COMPANY**  
P.O. Box 14508  
St. Louis, MO 63178

Equal Opportunity Employer

## MEDICAL AND SENIOR STAFF FELLOW

The Laboratory of Clinical Studies, National Institute on Alcohol Abuse and Alcoholism, Public Health Service, invites applications for one Fellowship position to study the pathophysiology, psychobiology, and molecular biology of alcoholism and its complications. Unique opportunity to become an active member of a multidisciplinary research team working with a 10 bed unit and outpatient clinic. State-of-the-art equipment and experienced technical support available. The position is that of a Medical or Senior Staff Fellow with a salary range of \$37,000 to \$52,000 per annum commensurate with qualifications and is located on the NIH campus in Bethesda, MD. Interested candidates must be board certified or eligible internists, who are U.S. citizens or permanent residents. Position information and qualification requirements may be obtained by contacting:

**Ted George, M.D.**  
Bldg. 10, Room 3B-19  
9000 Rockville Pike  
Bethesda, MD 20892  
Phone: (301) 496-9705



Submit Curriculum Vitae and names of three references to Dr. George.

The position is now available.

"An Equal Opportunity Employer"

## RESEARCH & DEVELOPMENT OPPORTUNITY

Buckman Laboratories International, Inc. currently has a career opportunity for a research and development scientist in our modern, well-equipped R&D laboratories in Memphis, Tennessee. Our Research and Development team is engaged in the development of new products and technologies for a world-wide network of associated specialty chemical companies that manufacture and sell products for a broad spectrum of industries and applications. In addition to competitive salaries and excellent benefits, we offer a stimulating and interesting work environment that encourages creativity and promotes personal and professional growth.

## MYCOLOGIST

General duties will provide the opportunity to evaluate new compounds and new product candidates for fungicidal activities with application as industrial microbicides. Applicants should have an M.S. in Mycology or a related discipline, preferably with work experience in one or more of the following areas of fungal-based deterioration: plant disease, wood disfigurement, paint film, leather, plastics, or other natural or synthetic substances. The ability to identify disfiguring and degrading fungi would be considered a significant plus.

For immediate and confidential consideration for this opening, please send a complete resume with salary history to:



Personnel Department  
Buckman Laboratories  
International, Inc.  
P.O. Box 8305  
Memphis, TN 38108

# Head of Physical Sciences

c. £40,000 plus car  
Beckenham, Kent

Wellcome's international reputation as a manufacturer of pharmaceutical products of exceptional quality is a measure of the very high calibre of its employees.

Our Beckenham Site, which is some 1,700 people strong, is the centre of major corporate activities including research and development, biotechnology and marketing.

The Department of Physical Sciences is one of five which constitute the Research Division in a closely integrated approach to discovering new medicines. It is a substantial department of unusual breadth incorporating spectroscopists, Engineers (Electronic and Mechanical), Computational Chemists, and Physical-Organic Chemists.

As a leading scientist and a member of the Research Division's senior management team, the Department Head is responsible to the Director of Research for the quality and relevance of the Department's scientific contribution, through personal standing and the management of the Department's substantial and diverse resources.

Applicants will have significant experience of managing teams in a Research environment, a background in Physical Sciences, and an exceptional track record in a relevant area of physical research. In addition, a sensitivity to biology is important, to enable the effective deployment of current and future resources.

As you will act as a focus for a wide range of activities you will possess the personal qualities that generate enthusiasm and an awareness in staff of the role of physical scientists in drug research. A natural team-working style is highly desirable in the pursuit of both immediate and long-term objectives, and communication skills are of paramount importance to ensure effective integration with Pharmacologists, Biochemists, Molecular Biologists, and Medicinal Chemists in the search for novel therapeutic agents.

As well as a stimulating working environment, this position offers a highly attractive salary and company car together with generous benefits, featuring 25 days' holiday, profit share, pension and life assurance, and first-class sports and social facilities.

**A Position Description providing more detailed information on the post is available on request. Please write, enclosing your CV, to Ian Griffiths, Personnel Manager, The Wellcome Research Laboratories Ltd., Langley Court, Beckenham, Kent BR3 3BS.**

- The Wellcome Foundation Ltd.
- Major International Pharmaceutical Group
- Research Centre at Beckenham
- Annual Turnover >£1,250m
- An Equal Opportunity Employer



**Wellcome**



## POSITIONS OPEN

**FACILITY SCIENTIST.** Cell culture facility seeks facility scientist with experience in animal cell culture, medium preparation and hybridoma production. This is a state-funded, service-oriented position in the University laboratories providing services and training for faculty and outside users. M.S. degree with experience preferred. Screening begins immediately. Send résumé and references to: **Ms. Mary Tokes, Biotechnology Center, U-124, 75 North Eagleville Road, University of Connecticut, Storrs, CT 06269.** Affirmative Action/Equal Opportunity Employer. (Search #9A270).

### IMMUNOLOGY TRANSPLANTATION

Applications are invited for a full-time appointment to the Section of Immunology in the Research Institute of The Cleveland Clinic Foundation. Interested applicants must have a Ph.D. and/or M.D. degree with a minimum of 4 years of postdoctoral training in molecular aspects of cellular immunology with an emphasis on issues relevant to basic and/or clinical aspects of transplantation science. The successful candidate will have a strong record of research productivity and exhibit a history of external funding or demonstrate the ability to develop a competitively funded research program. The position offers the opportunity for interaction with major clinical transplantation programs within the Foundation and will provide the focus for a research training program for clinical fellows. Rank and salary will be commensurate with experience. Interested applicants should send curriculum vitae, a statement of research interests, and the names of three individuals willing to serve as references to:

**Dr. Thomas A. Hamilton**  
Research Institute FF4  
The Cleveland Clinic Foundation  
9500 Euclid Avenue  
Cleveland, OH 44195

*The Cleveland Clinic Foundation is an Equal Opportunity/Affirmative Action Employer.*

**LECTURER IN BIOCHEMISTRY/DIRECTOR OF BIOTECHNOLOGY FACILITY.** Teach and conduct research in biochemistry. Supervise operation of the Fermentation Laboratory, Applied Biosystems Model 380B DNA Synthesizer, Applied Biosystems Model 430A Peptide Synthesizer, Applied Biosystems Model 477A/120A Protein/Peptide Sequencer, computer systems for gene and protein sequence analysis and HPLC systems for the purification and analysis of proteins, peptides, and nucleic acids. Ph.D. in biochemistry and experience in the use and theory of this instrumentation required. Send curriculum vitae and three references to: **Francis C. Neuhaus, Ph.D., Professor and Chairman, Department of Biochemistry, Molecular Biology and Cell Biology, Northwestern University, 2153 Sheridan Road, Evanston, IL 60208.** Northwestern University is an Equal Employment Opportunity/Affirmative Action Educator and Employer.

St. George's University School of Medicine has openings for experienced **LECTURERS** in:

### BIOCHEMISTRY PHARMACOLOGY

Prior medical school teaching experience is required. Initial appointments are for 1 year, with renewals possible for periods of 1 to 2 years.

Applications will be considered for candidates anticipating a sabbatical leave, or from recent retirees in good health. Level of appointment will depend on the background of applicants. Send curriculum vitae and teaching references to:

**Dr. David Brown**  
Dean of Basic Sciences  
St. George's University, School of Medicine  
c/o Foreign Medical School Services Corp.  
One East Main Street  
Bay Shore, NY 11706

**MOLECULAR VIROLOGIST** to study hepatitis and AIDS viruses. Must have a Ph.D. and 4 to 6 years of productive postdoctoral experience. Must have expertise with DNA and RNA viruses, vaccinia virus expression system, DNA and protein sequencing, use of HPLC and characterization of membrane and secretory proteins. Send résumés to: **Dr. B. Baroudy, Director, Division of Molecular Virology, James Gamble Institute of Medical Research, 2141 Auburn Avenue, Cincinnati, OH 45219.** Affirmative Action/Equal Opportunity Employer.

## ISOTOPE GEOCHEMISTRY RESEARCHER

Los Alamos National Laboratory, an international leader in technological and scientific research and development, has an excellent opportunity for a researcher specializing in isotope geochemistry.

Contributing to an important interdisciplinary and collaborative effort, you will act as principal researcher for programs studying the geochemistry of fission products and actinides. Your responsibilities will involve measuring the abundance and isotopic composition of U, Th, Pu, TC and I in uraniferous rocks. Working with international project members studying element transport and retention in uranium ore, you will coordinate efforts to achieve scientific objectives and act as liaison with sponsors.

We require experience measuring element and isotope abundances in complex materials, preferably with a background that includes both separation of the analyte from the matrix and quantitative measurements using thermal ionization mass spectrometry or related techniques. A proven understanding of the use of naturally occurring radioactive nuclides in studies of hydrology and the geochemistry of aqueous systems is necessary. A PhD in chemistry, geochemistry or hydrogeochemistry is required. The ability to develop and promote new programs is desired.

As a leading R&D institution, we provide an attractive salary and benefits package and a challenging work environment. Interested candidates should forward a resume and salary history to Chuck Pacheco (MS P280), Personnel Services Division 90403-CE, Los Alamos National Laboratory, Los Alamos, NM 87545.

Affirmative Action/Equal Opportunity Employer. Must be able to obtain a Department of Energy Security Clearance.

University of California

# Los Alamos

## MOLECULAR BIOLOGIST/ ANTIBODY CLONING

### Cancer Therapeutics

The Dow Chemical Company, in Midland, Michigan, is a recognized world leader in the chemical industry. Expanded research efforts in the area of cancer therapeutics and immunotherapy have created an immediate need within the Bioproducts Laboratory in the Central Research Department for a qualified Molecular Biologist.

The successful candidate will have a Ph.D. and preferably postdoctoral experience in genetic engineering. Experience in cDNA cloning, preparation and screening of genomic libraries, eukaryotic expression vectors, and DNA sequencing is required. Research efforts will be directed toward protein design for application in our biotechnology-based cancer therapeutic program.

The above candidates must also possess strong communication skills and a desire to carry out independent research while functioning as part of an interdisciplinary research team.

The Dow Chemical Company offers a stimulating work environment and a competitive salary/benefits package. For consideration, send your resume to: **Technical Recruiting, Department MB-3, The Dow Chemical Company, 1801 Building, Midland, MI 48674.** An equal opportunity employer.



# Research Scientists

TRITON BIOSCIENCES INC., a subsidiary of Shell Oil Company, is focused on pharmaceutical development opportunities in the areas of cancer, AIDS and other serious diseases. We currently have the following excellent employment opportunities in our Research and Development areas.

## Bioassay Development

You will be responsible for developing biological and immunological assays for therapeutic proteins. Requires a PhD in Biochemistry, Microbiology, Immunology and 3+ years' assay development experience. Direct experience in receptor binding, growth inhibition, antivirals, enzymes and bioassays is a must. Refer to Job #89008.

## Research Supervisor—Tumor Studies

You will coordinate and expand research efforts involving animal models and ascites production. You will work both independently and cooperatively with other scientists to support R&D programs in the areas of oncogene products, growth factors and monoclonal antibodies. You should have a PhD in Pharmacology, Immunology, or related area, and experience in tumor model systems and pharmacokinetic analysis. Excellent communication skills are essential. Refer to Job #880RM.

## Peptide Chemistry

You will manage a state-of-the-art peptide chemistry lab including responsibility for solid phase peptide synthesis using t-boc and fmoc chemistry, structure-function studies, analog development and epitope mapping for several R&D programs in the cytokine and oncogene area. This involves both active scientific collaboration and a service component. You should have a PhD in Chemistry or Biochemistry with experience in the peptide area. Refer to Job #89061.

TRITON offers competitive salaries and benefits, including relocation assistance. For consideration, send your resume with cover letter, noting appropriate Job number, and highlighting your skills and experience to TRITON BIOSCIENCES INC. 1501 Harbor Bay Parkway, Alameda, CA 94501. EEO/AA employer.



Triton Biosciences Inc.

## Applications Invited for Executive Director Position

The Search Committee of the Federation of American Societies for Experimental Biology (FASEB), with headquarters in Bethesda, Maryland, invites nominations and applications for the position of Executive Director with duties to commence January 1, 1990.

As Chief Operating Officer of the Federation, the Executive Director is responsible for implementing the policies established by the FASEB Board and its Executive Committee. The Executive Director is expected to promote the purposes of the six Constituent Societies and one Affiliate Society, which comprise FASEB. The activities of FASEB include:

- Promoting biological science and science policy through interactions with government agencies, academic and research institutions, industry, and the public.
- Promoting the aims and goals of the working scientists who make up FASEB.
- Contributing toward the attainment of the individual objectives of the Constituent Societies.
- Communicating scientific information through meetings and publications.
- Serving government, academic and industrial sectors, and the public.

The Executive Director is responsible to the Board for the management of FASEB headquarters (about 130 employees and a budget in excess of \$12 million per year). He/She will participate with the Executive Officers of the Constituent Societies toward the attainment of their objectives. The Executive Director will keep informed of developments in government relevant to the pursuit of biological science, in general, and to FASEB and its members, in particular, and will make recommendations concerning their impact to the Executive Committee and Board. With their concordance, he/she will represent the Board and will transmit policy to external agencies.

With a membership of more than 30,000 biological scientists, FASEB occupies a crucial position in the scientific community in representing the views of research workers to government officials responsible for establishing scientific policies and the funding of research. As it enters the last quarter of its first century, FASEB, through its Executive Director, is heavily engaged in advocating positions of biological scientists on the proper use of animals in research and on the safe use of radioactive and potentially harmful chemicals. In particular, FASEB is very active in considerations of policies and regulations aimed at deterring misconduct in science, so as to ensure that new rules do not impede scientific inquiry. Participation in this process is viewed as challenging and essential for maintaining an atmosphere conducive to creative, innovative science.

In addition to a background in the biomedical sciences, knowledge of science policy and senior-level management experience, applicants should possess the attributes of vision, leadership, and motivation and have demonstrated the administrative and diplomatic skills to work harmoniously with groups having diverse interests and needs.

Salary and perquisites, in the range of those for top-level academic and research administrators, will be commensurate with the duties and responsibilities of the position and the qualifications and experience of the individual selected. Applications and nominations, submitted by August 15, 1989, should include a résumé of professional experience, a current curriculum vitae, a statement outlining reasons the position is of interest, and the names and addresses of three references.

This material should be directed to the attention of: Dr. Howard K. Schachman, Chairman of Search Committee, Personnel Office, FASEB, 9650 Rockville Pike, Bethesda, Maryland 20814. FASEB is an equal opportunity employer.

## SCIENTISTS CLINICAL ASSAY DEVELOPMENT

The satisfaction of working at Bio-Rad Laboratories comes from seeing your research quickly become a useful product. It is a feeling shared by all of us here and a major reason for our success.

If you have experience in commercial immunoassay development or the development of diagnostic systems for physiologically active substances, come join us and see what we mean. You'll need a BS, MS or PhD in Life Science and 3+ years' experience in the development of commercial ELISAs. The ability to lead R&D projects and work well with others will be recognized and appreciated.

For consideration, please send your resume to Bio-Rad Laboratories, Inc., Human Resources, Dept. 292/159-SCI0604, 1000 Alfred Nobel Drive, Hercules, CA 94547. EOE.

**BIO-RAD** Bio-Rad Laboratories

### Research

## Food and Nutrition Board

### Project Director Program Officer

The INSTITUTE OF MEDICINE of the National Academy of Sciences is seeking a Project Director and a Program Officer for a study on food labeling with its FOOD AND NUTRITION BOARD. Responsibilities include supervision of a study, providing support to study committee, preparation of background papers, etc. Both require Ph.D. or equivalent in nutrition sciences, food science, or a related discipline. Project Director requires at least 5 years of managerial and supervisory experience; Program Officer at least 2 years' project management experience. Both require demonstrated organization and supervisory skills, excellent oral and written communication skills, and ability to perform critical reviews of technical data. Background in nutrition research with familiarity with range of nutrition and public health policy issues, especially food labeling, highly desirable. We offer a salary commensurate with experience and an exceptional benefits package. Please send résumé in confidence to: **10M/2137-310 (FP), 2101 Constitution Avenue, N.W., Washington, D.C. 20418. EOE.**



## NATIONAL INSTITUTES OF HEALTH FELLOWSHIP IN NEUROCHEMISTRY

The Laboratory of Neurosciences, National Institute on Aging, invites applications for the position of Staff Fellow/Medical Staff Fellow to study the postmortem human brain in relation to age, Alzheimer's disease and Down syndrome, coordinated with ongoing clinical program. Animal models of disease (e.g., murine trisomy 16) and actions of centrally acting drugs will be examined. Applications are invited from individuals having a Ph.D. and/or M.D., plus experience in neurochemistry, molecular approaches to gene expression (including in situ hybridization) or neuroanatomy (including quantitative autoradiography). Salary is commensurate with qualifications. Appointments vary in duration from 2 to 7 years, and are tenure-track. Interested applicants should send Curriculum Vitae plus two letters of recommendation to:

**Stanley I. Rapoport, M.D.**  
Chief, Laboratory of Neurosciences  
Bldg. 10, Rm. 6C-103  
National Institute of Aging, NIH  
9000 Rockville Pike  
Bethesda, MD 20892



NIH IS AN EQUAL OPPORTUNITY EMPLOYER

### DIRECTOR - RESEARCH

BACHEM Bioscience, Inc., a leader in the field of biologically active peptides and proteins, is seeking an individual to direct its research efforts at our Philadelphia facility. We are interested in a candidate who has both the technical and leadership skills necessary to direct the activities of three groups of scientists: peptide chemists, molecular biologists and cell biologists.

Specifically, this position will be responsible for the research, development, and production of new peptides and proteins. The successful candidate should have a Ph.D., at least 5-10 years of industrial experience and have demonstrated ability to lead a group and develop products. Research experience should include the synthesis of peptides, expression and purification of proteins and structure/activity determinations.

BACHEM Bioscience, Inc. offers a competitive compensation and benefits package as well as excellent growth opportunities for the highly motivated and goal-oriented professional. Qualified candidates should send their resume and current earnings to: C. Scandone, BACHEM Bioscience, Inc., 3700 Market Street, Philadelphia, PA 19104

**BACHEM**   
Bioscience Inc

## MIT Postdoctoral Fellowships

Two postdoctoral fellowships in auditory physiology are available at the Massachusetts Institute of Technology (MIT) in an NIH-supported program. NIH requires an individual be a citizen or a non-citizen national of the United States or have been lawfully admitted for permanent residence at the time of the application to be eligible for these positions. Specific areas of interest include comparative physiology of the middle ear, mechanoelectric transduction in the inner ear, structure-function relations in normal and pathological ears, coding of acoustic stimuli in the auditory nerve and brain stem nuclei, olivocochlear and middle-ear-muscle systems, neurochemistry of the auditory systems, and the use of evoked potentials in clinical applications.

Inquiries are invited from recent recipients of Ph.D. or M.D. degrees who wish training in the physiology and anatomy of the auditory systems at the Eaton-Peabody Laboratory, a facility operated jointly by MIT, the Massachusetts Eye and Ear Infirmary, and the Harvard Medical School.

Please submit two copies of curriculum vitae along with letter of interest to: **Prof. William T. Peake, MIT/RLE (36-825), 77 Massachusetts Avenue, Cambridge, MA 02139.**

Applications should be submitted before December 1, 1989.

MIT is an Equal Opportunity/Affirmative Action Employer  
MIT is a non-smoking environment

**MIT**

## POSTDOCTORAL FELLOWSHIP PROGRAM

The Squibb Institute for Medical Research is undertaking a major new effort in basic biomedical research. New research laboratories are currently under construction at our headquarters in Princeton, New Jersey. Funding for research currently is at \$300 million annually and is scheduled to increase at an annual average rate of 20% over the next five years.

The Squibb Institute has established strong ties with academic institutions by forging a major research agreement in neuropharmacology with Oxford University, one of Europe's foremost centers for neuroscience research. Other research agreements are being made with Glasgow University and Bradford University in Great Britain; INSERM in France; and Massachusetts General Hospital, The Rockefeller University, The Trudeau Institute and The Children's Hospital, a teaching affiliate of Harvard University, in the United States. Additional research agreements with other institutions are being planned.

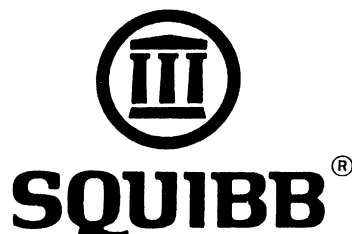
More than at any time in the past, Squibb is committed to basic biomedical research, both at The Squibb Institute for Medical Research and through research alliances with leading academic institutions worldwide. This basic research is aimed at expanding the frontiers of science in selected areas of chemistry, molecular biology and genetics particularly as they apply to:

- Macromolecular Structure
- Metabolic Diseases
- Oncology
- Virology
- Immunology
- Neurobiology
- Cardiovascular Diseases

Our Postdoctoral Fellowship Program offers outstanding opportunities for scientists to gain significant postdoctoral training in the basic research programs pursued at The Squibb Institute for Medical Research and in collaboration with our research alliances.

I invite you to submit your curriculum vitae and three letters of recommendation for review and response to: **The Squibb Institute for Medical Research, Manager Staffing and Development, P.O. Box 4000, Princeton, NJ 08543-4000.**

Edgar Haber, MD  
President  
The Squibb Institute  
for Medical Research



## BIOTECHNOLOGY/ CANCER RESEARCH

Applied bioTechnology is a growing company specializing in novel products for cancer diagnostics and therapeutics based on oncogene technology as well as in genetically engineered vaccines for the human and veterinary markets.

Our Oncogene Group has the following research positions available:

### STAFF SCIENTIST/ SR. STAFF SCIENTIST *Tumor Immunology*

Work with a group of scientists to develop an immunotherapeutics program encompassing the use of immunoconjugates, lymphokines or novel approaches to the treatment of cancer. A PhD and a minimum of 2 yrs. experience in tumor immunology, with an emphasis on the use of monoclonal antibody immunoconjugates is required. Experience with animal models is preferred.

### STAFF SCIENTIST/ SR. STAFF SCIENTIST *Molecular Biology*

Join a team of scientists studying the molecular mechanism of oncogene transformation, with applications toward cancer diagnostics and therapeutics. A PhD and 2 yrs. of post-doctoral experience in molecular or cellular biology of oncogenes is preferred.

### RESEARCH ASSOCIATES

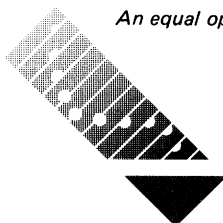
Several positions exist for individuals with experience in the areas of Hybridoma Technology, Protein Chemistry, and Molecular Biology. A BS/MS plus 1-3 yrs. of relevant experience is required.

AbT offers a challenging work environment, excellent opportunities for career development, and a competitive salary and benefits program.

*Please submit your resume to:*

**Applied bioTechnology, Inc., 80 Rogers Street,  
Cambridge, MA 02142.**

*An equal opportunity employer m/f*



***Applied bioTechnology, Inc.***

## POSITIONS OPEN

### KINETICS/METABOLISM/TOXICOLOGY/ANALYSIS FACULTY OF PHARMACY UNIVERSITY OF TORONTO

Applications are invited for an **ASSISTANT PROFESSOR** tenure-stream position from individuals with backgrounds in pharmacokinetics, drug metabolism, toxicology, and chemistry. The successful candidate will be expected to establish an independent research program which is complementary to existing programs in pharmacokinetics and toxicology. Participation in the supervision of graduate students and in the teaching of graduate courses is required. The candidate will also be expected to teach pharmaceutical analysis (i.e., chromatography, immunoassays, etc.) at the undergraduate level.

Within the University of Toronto, interdepartmental collaboration is strongly encouraged and is supported at the graduate level by cross-appointments, joint courses, and multidisciplinary programs. Start-up support is available from faculty and university sources.

The successful candidate should hold a Ph.D. degree and have relevant research experience. Interested persons should submit a current curriculum vitae, a short outline of future research interests, and names of three references to: **Dean Donald G. Perrier, Faculty of Pharmacy, University of Toronto, 19 Russell Street, Toronto, Ontario, M5S 2S2, Canada.**

Applications will be considered beginning 15 September 1989.

*In accordance with Canadian Immigration requirements, priority in the first instance will be given to Canadian citizens and landed immigrants. In accordance with the Employment Equity Policy of the University of Toronto, applications are invited from all qualified women and men.*

### MASS SPECTROMETRY THE SECTION OF ANALYTICAL CHEMISTRY LABORATORY OF CLINICAL STUDIES (LCS) NIAAA, PHS

Invites applications for a **STAFF/SENIOR FELLOW** position to study lipid and eicosanoid metabolism and to participate in our basic and clinical studies of the effects of alcohol on cellular membrane function. A unique opportunity to join a multidisciplinary research team located on the grounds of the NIH in Bethesda, Maryland. The fellow will be responsible for the operation of a Kratos MS-80 GC/MS and must have MS experience. The salary ranges from \$24,000 to \$45,234 and is commensurate with qualifications and experience. Interested candidates should contact: **Norman Salem, Jr., Ph.D., Building 10, Room 3C-218, LCS-NIAAA, 9000 Rockville Pike, Bethesda, MD 20892. Telephone: 301-496-4900.**

The position is available immediately.

*An Equal Opportunity Employer.*

**NUTRITIONAL BIOCHEMIST** for independent research relevant and complementary to ongoing metabolic research in trauma patients as regards identification of polyamines as biomarkers of injury and significance during nutritional therapy of trauma patients. Conduct small animal studies with polyamines and nutrient supplements. Write research proposals, reports, abstracts, and manuscripts. Requirements: Ph.D. in food technology or nutrition and 3 years of research experience in animal nutrition, human metabolism, and injury and in analysis of polyamines and muscle amino acids. \$26,500 per year, 40-hour week. Job location: Phoenix, Arizona. Qualified applicants send résumés within 10 days of advertisement to: **St. Joseph's Hospital, Attention: Employment Office Supervisor, P.O. Box 2071, Phoenix, AZ 85001.** Proof of authorization to work in United States required if hired. *Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** in epilepsy research—available for Ph.D. in pharmacology of biochemistry to study basic neurochemistry of petit mal epilepsy using animal models. Salary range \$20,000 to \$25,000. Send curriculum vitae and three letters of recommendation to: **Dr. O. Carter Snead III, Children's Hospital of Los Angeles, Division of Neurology, 4650 Sunset Boulevard, Los Angeles, CA 90027.** *Affiliated with University of Southern California School of Medicine, an Equal Opportunity Employer.*

## POSITIONS OPEN

**OB/GYN FACULTY POSITION—POSTDOCTORAL**—The Department of Obstetrics and Gynecology, University of Oklahoma Health Sciences Center in Oklahoma City is seeking an individual with research interest in endometriosis. Training in immunology, biochemistry; Ph.D. required. Must be skilled in student and resident teaching, research design, and statistical analysis. Send curriculum vitae and bibliography to: **Robert A. Wild, M.D., Associate Professor, Department of Obstetrics and Gynecology, University of Oklahoma College of Medicine, P.O. Box 26901, 4SP720, Oklahoma City, OK 73190.**

### PHYSIOLOGY/PHARMACOLOGY

Applications invited for **RESEARCH ASSOCIATE OR POSTDOCTORATE** in cardiopulmonary physiology/pharmacology. Preferred area of expertise is pulmonary defense mechanisms/respiratory homeostasis with emphasis on inflammatory processes. Qualifications: Ph.D. in appropriate field required. D.V.M. or M.D. with strong research record considered. D.V.M./Ph.D. combination ideal. Experience in handling experimental animals and food animal species using in vitro and in vivo systems also, knowledge of biometrics and data analysis essential. Major responsibilities: Key member of interdisciplinary team researching respiratory pathophysiology in bovine species: design and conduct experimental protocols; analyze data; assist in preparing reports, manuscripts, etc. Teaching opportunities encouraged. Conditions: 2-year initial appointment, renewable. Attractive, competitive salary commensurate with qualifications and experience. Review of candidates will begin 1 September 1989. Position is available immediately. Applications considered until position filled. Send letter, personal résumé, graduate transcript, reprints of two recent refereed articles and names, addresses, and telephone numbers of two references to: **Dr. Peter Eyre, Virginia-Maryland College of Veterinary Medicine, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.** *Equal Opportunity and Affirmative Action Institution.*

Positions available for a **POSTDOCTORAL ASSOCIATE, COMPUTER PROGRAMMER AND LABORATORY TECHNICIAN** on a project to sequence the *E. coli* genome. The project also includes the development of nucleotide sequence gathering technology and sequence analysis algorithms and software. Send résumé and names of references to: **F. R. Blattner, Laboratory of Genetics, 445 Henry Mall, University of Wisconsin, Madison, WI 53706.**

*An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL FELLOW** to investigate the chemistry and rheology of protein gels. Recent Ph.D. with a strong background in rheology and/or protein chemistry. Salary is \$22,000. Curriculum vitae and three letters of reference (by 1 July 1989) to: **Dr. E. A. Foegeding, Department of Food Science, North Carolina State University, Box 7624, Raleigh, NC 27695-7624.** *North Carolina State University is an Equal Opportunity/Affirmative Action University.*

**POSTDOCTORAL FELLOWSHIP.** Available immediately for studies on parkinsonism/neural transplantation in monkeys. Research will include adrenal autografts, allogeneic fetal grafts, immunobiology of neurografts, neurobehavioral assessment and development of cell lines for grafting. Competitive applicants will have experience with neural transplantation and/or tissue culturing. Send curriculum vitae, three letters of reference, and statement of research interests/laboratory skills to: **R. A. E. Bakay, M.D./L.D. Byrd, Ph.D., Yerkes Primate Research Center, Emory University, Atlanta, GA 30322.** *An Equal Opportunity Employer.*

### POSTDOCTORAL NEUROSCIENTISTS

Two postdoctoral positions are available to investigate gonadal steroid hormone-induced growth and plasticity in rat spinal motoneurons and sexual differentiation of neurons controlling bird song. Experience is preferred in spinal electrophysiology, light or electron microscopy, or molecular neurobiology, although other backgrounds are acceptable. Please send curriculum vitae, statement of research interests, and three letters of reference to: **Arthur P. Arnold, Department of Psychology and Brain Research Institute, University of California, Los Angeles, CA 90024-1563.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately to study the biochemical and molecular pharmacology and toxicology of metal-based anticancer agents. Experience with in vivo, in vitro, HPLC, and AA techniques is desirable. Applicants with Ph.D. in pharmacology or a related subject should send curriculum vitae and names of three references to: **Dr. Zahid H. Siddik, M. D. Anderson Cancer Center, Box 52, 1515 Holcombe Boulevard, Houston, TX 77096.** *An Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** is available immediately for a biochemist or biophysicist to study the role of metal in the regulation and mechanism of gene expression in prokaryotes, particularly in RNA polymerase. Experience in protein purification, LPR, and NMR techniques is desirable. Send curriculum vitae and three letters of recommendation to: **Professor Felicia Wu, Department of Pharmacological Sciences, HSC, SUNY Stony Brook, Stony Brook, NY 11794-8651.** *SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK 123.*

**POSTDOCTORAL POSITION** available immediately in group investigating the biogenesis and structure of membranes. Ongoing studies involve (i) the isolation of recently discovered enzymes of phospholipid metabolism, (ii) the localization of these enzymes within cells, and (iii) the delineation of metabolic pathways to which these enzymes contribute. Send curriculum vitae, three letters of recommendation, and summary of career goals to: **Dr. John A. Glomset, Howard Hughes Medical Institute, SL-15, University of Washington, Seattle, WA 98195.**

**POSTDOCTORAL POSITION** to design and evaluate molecular diagnostic methods for their effectiveness in discovering and identifying seed-borne bacterial plant pathogens. A Ph.D. in biology and previous experience in molecular biology are required. Please send curriculum vitae and three letters of reference to: **R. L. Gabrielson, Washington State University Puyallup Research and Extension Center, Puyallup, WA 98371-4998.** Screening of applications will begin 5 July 1989. *Washington State University is an Equal Opportunity/Affirmative Action Educator and Employer. Protected groups are encouraged to apply.*

**POSTDOCTORAL POSITION** available immediately to study developmentally regulated penicillin-binding proteins in *Bacillus subtilis*. Experience in molecular biology desired. Send curriculum vitae and names of three references to: **Dr. C. Buchanan, Department of Biological Sciences, Southern Methodist University, Dallas, TX 75275.** *Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY AND BIOCHEMISTRY JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

A position will be open in the fall to study the molecular biology and biochemistry of the mitochondrial ATP synthase/ATPase complex. Individuals in the process of completing their Ph.D. thesis work in either molecular biology or biochemistry are encouraged to apply. Interested individuals should send curriculum vitae and the names of three references to:

**Dr. Peter L. Pedersen  
Department of Biological Chemistry  
Johns Hopkins University School of Medicine  
725 North Wolfe Street  
Baltimore, MD 21205**

**POSTDOCTORAL POSITION IN MOLECULAR PHARMACOLOGY** to study (i) tissue-specific transcriptional and posttranslational regulation of the glucocorticoid receptor in lymphoid cells; and (ii) somatic and drug induced mutations in the glucocorticoid receptor gene of human leukemic cells. Significant experience in molecular biology preferred. Salary commensurate with background and experience. Send curriculum vitae and names of three references to: **Dr. Jeffrey M. Harmon, Department of Pharmacology (c/o Personnel), Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814.**

Plan Now to Attend the Third Annual

# North American Cystic Fibrosis Conference

Innisbrook Resort & Conference Center  
Tarpon Springs (Tampa), Florida  
October 11-14, 1989

## ■ PLENARY SESSIONS

**Advances in Medical Treatment of CF**  
**Beryl J. Rosenstein, M.D.**  
The Johns Hopkins University Hospital

**A Look Toward the Future**  
**Richard C. Boucher, Jr., M.D.**  
University of North Carolina at Chapel Hill

**The CF Gene -- Where We Stand**  
**Francis S. Collins, M.D., Ph.D.**  
University of Michigan, Ann Arbor  
**Lap Chee Tsui, Ph.D.**  
Hospital for Sick Children, Toronto

## ■ SYMPOSIA

- Current Application of DNA Technology to Clinical Practice in CF
- Lung and Heart-Lung Transplantation in CF Patients
- Successful Strategies for Living With CF
- Nutrition in CF
- The CF Gene: Molecular and Biochemical Approaches
- Evaluation and Management of CF Lung Disease in the First Two Years of Life
- Diagnosis and Management of Liver Disease in CF
- Controversies in Care

## ■ BASIC SCIENCE SEMINARS

- Pseudomonas Colonization and Persistence
- Electrolyte Transport -- Mechanisms and Regulation in CF

## ■ PROGRAM COMMITTEE

CHAIRMEN: Thomas F. Boat, M.D. and Francis S. Collins, M.D., Ph.D.

### MEMBERS:

Arthur L. Beaudet, M.D.  
David Beele, M.S.W.  
Richard J. Bonforte, M.D.  
David L. Brautigan, Ph.D.  
Joan C. Darbee, M.S., P.T.  
Cindy Dillon, M.S., R.N.  
Barbara H. Iglewski, Ph.D.

Irwin B. Levitan, Ph.D.  
Suzanne H. Michel, M.P.H., R.D.  
David M. Orenstein, M.D.  
Beryl J. Rosenstein, M.D.  
Daniel V. Schidlow, M.D.  
Michael J. Welsh, M.D.

## ■ CONTRIBUTED PAPERS AND CONFERENCE PUBLICATION

More than 175 abstracts will be presented in poster form. Proceedings will be published as a supplement to *Pediatric Pulmonology*. In addition, 30 workshops and roundtables on more than 60 subjects will be offered.

CME credits and CEU's for other disciplines are pending.

*A multidisciplinary  
conference for  
researchers,  
physicians, and  
allied health  
professionals on the  
latest advances in  
cystic fibrosis (CF)  
research and care.  
Presented by the  
Cystic Fibrosis  
Foundation.*

**Registration Fee:** \$175 (U.S.); \$100 for students, residents, fellows and postdoctoral trainees.

**Pre-registration Deadline:** September 8, 1989.

**For more information, please contact the Foundation.**



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



## PROTEIN BIOCHEMISTRY ASSOCIATES

Committed To  
Scientific  
Excellence



Sterling Research Group, the world-wide pharmaceutical research and development organization of Sterling Drug Inc., announces openings for Protein Biochemistry Associates, at the Great Valley, PA facility near Philadelphia.

Positions are available in the protein Biochemistry/Molecular Biology Department. Candidates should have experience with protein purification and analysis. A B.S./B.A. with 1-2 year experience or M.S. is required for the associate level position.

Sterling Drug Inc. offers competitive salaries and comprehensive benefits program, along with outstanding career opportunities for personal and professional growth. For confidential consideration, please forward your resume with salary history/requirements and the names of three references to:

Employee Relations, GV-16

### STERLING RESEARCH GROUP

A Division of Sterling Drug Inc.  
9 Great Valley Parkway  
Malvern, PA 19355

A Subsidiary of  
**EASTMAN KODAK COMPANY**  
Equal Opportunity Employer M/F/H/V

**I**mmuCell Corporation is a young, publicly held company engaged in the development of diagnostics, immunoprophylactics and immunotherapeutics for the animal and human health care industries. Recent growth has created the following new positions within our research and development group:

## Scientists/Group Leaders

These positions require ambitious, energetic, results-oriented individuals with training and experience as indicated. All positions require excellent organizational and communication skills.

**Protein chemistry:** Ph.D. with postdoctoral training in large scale protein isolation. Some commercial experience helpful, but not required. Will be responsible for developing processes for the large scale isolation of immunoglobulins for both human and animal products.

**Immunotherapeutics/vaccines:** Ph.D.'s (2) with postdoctoral training in microbiology and the immune response to infection. Experience in the characterization and isolation of microbial antigens is required. Successful candidates will participate in the development of immunotherapeutics for the prevention of infectious disease.

ImmuCell offers a competitive compensation package that includes potential equity participation, as well as a beautiful coastal New England setting with a unique quality of life. Our entrepreneurial environment provides the opportunity to grow professionally and to attain commensurate recognition and reward.

Please send resume and salary history to: **Ms. Virginia Hebert, Administrator, ImmuCell Corporation, 966 Riverside Street, Portland, ME 04103.**

# ImmuCell

## SENIOR AEROSOL PHYSICIST

NSI Technology Services Corporation, a nationwide contract research and development firm, is seeking a Senior Aerosol Physicist to conduct research on the deposition and clearance of aerosols in the lungs. The successful candidate for this position will be responsible for:

- design and implementation of an experimental program to study deposition of fluorescent and/or radioactive aerosols in hollow lung casts
- collaboration with other scientists on experimental validation of theoretical models of particle deposition in bifurcating airways
- collaboration with pulmonary physiologists to design and implement experimental studies of particle clearance from common laboratory rodents.

Requirements include a Ph.D. or comparable experience in physics, aerosol sciences, mechanical engineering, or related field. A strong record of research and publications in the area of lung deposition must be demonstrated. Salary is competitive and commensurate with experience. Qualified candidates should submit their resume, including salary history and requirements, in confidence, to:

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**THE NATIONAL RESEARCH COUNCIL**  
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**Deadlines for application:** August 15, 1989, January 15, April 15 and August 15, 1990 for competitions to be held in October 1989 and February, June and October 1990 respectively.

*For further information, contact:*

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Centers for Disease Control

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*For application materials, write to:*

Associateship Programs • (GR 430A/C)

**NATIONAL RESEARCH COUNCIL**

2101 Constitution Avenue, NW • Washington, DC 20418

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The University  
of Sydney, Australia

**CHAIR OF BIOLOGY**

(in the field of genetics)

Reference No. 21/01

Applications are invited for a Chair of Biology in the field of Genetics which will become vacant on the retirement of Professor J.A. Thomson in July, 1990. The Chair is one of four Chairs of Biology in the School of Biological Sciences. The person appointed to the Chair will be expected to promote research and teaching in genetics, within a broad context of Biology. Research and teaching in the School range from molecular biology through plant and animal physiology to terrestrial and marine ecology.

Salary will be at the rate of \$A63,919 p.a.

The University reserves the right not to proceed with any appointment for financial or other reasons.

Applications in triplicate, including curriculum vitae, list of publications, fax numbers, and the names of three referees by 31 July, 1989, to the Registrar, University of Sydney, 2006 Australia from whom a detailed statement of information concerning the Chair should be obtained.

Further information is also available from the Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, United Kingdom.

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**POSTDOCTORAL POSITION**—available in laboratory using electrophysiological and pharmacological techniques to study the role of the inositol phosphate cascade in phototransduction and energy metabolism of individual photoreceptor cells.

Contact:

**Dr. Alan Fein**  
Department of Physiology  
University of Connecticut Health Center  
Farmington, CT 06032

*An Affirmative Action/Equal Opportunity Employer M/W/H.*

**POSTDOCTORAL POSITION** available immediately to study the relationship between tubulin structure and enzymology and microtubule function in vivo. Project involves oligonucleotide-directed mutagenesis of cloned yeast tubulin genes. Strong background in molecular biology is desirable. Send curriculum vitae, names and addresses of three references and a statement of research interests to: **Dr. Kevin Farrell, Department of Biological Sciences, University of California, Santa Barbara, CA 93106.** Proof of U.S. citizenship or eligibility for U.S. employment will be required prior to employment (Immigration Reform and Control Act of 1986).

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### POSTDOCTORAL POSITION

Postdoctoral position available immediately to study gene expression in mouse embryos. We are using in situ hybridization and RT/PCR technology to characterize the expression of particular genes in preimplantation and postimplantation embryos. Background in molecular biology or developmental biology is preferred. Please send curriculum vitae and the names of three references to: **Dr. William R. Crain, Jr., c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545.**

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**POSTDOCTORAL POSITION, MOLECULAR NEUROGENETICS.** Funded position beginning fall 1989 at University of Texas Southwestern in Dallas for one of several projects involving gene cloning and gene-product characterization of neurodegenerative mutations in both mouse and human [see *Nature* 338, 70-73 (1989)]. Send curriculum vitae, statement of scientific interest and the names of three references to: **Gabriel H. Travis, M.D., Department of Molecular Biology, Research Institute of Scripps Clinic, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

### U.S. DEPARTMENT OF AGRICULTURE (USDA) AGRICULTURAL RESEARCH SERVICE

**TWO POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS** are open in the Plant Molecular Biology Laboratory, USDA, Beltsville, Maryland. (i) Molecular biology of the regulation and synthesis of ethylene during senescence (P.I. **Autar Mattoo**). See *PNAS* 85, 8810 (1989) and *Senescence and Aging in Plants* (Nooden and Leopold, Eds.), pp. 241-280 (1988). (ii) Molecular biology of cell-specific and developmentally regulated genes in soybean (P.I. **Mark Tucker**). See *Plant Physiology* 88, 1257 (1988) and *Plant Molecular Biology* 9, 197 (1987). Salaries are \$28,852 per annum. Send curriculum vitae and three letters of reference to: **Dr. A. K. Mattoo, Research Leader, Plant Molecular Biology Laboratory, USDA, Building 006, Room 200, BARC-West, Beltsville, MD 20705.** Applications must be marked 9E008. *An Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCHER, TECHNICIAN AND GRADUATE STUDENT BIOLOGY.** Positions available for research on the biochemistry and molecular biology of mycorrhizal formation. Send curriculum vitae and names of three references to: **Dr. Anne J. Anderson, Biology, Utah State University, Logan, UT 84322-5305.** *USU is an Affirmative Action/Equal Opportunity and IRCA Employer.*

## POSITIONS OPEN

### OREGON HEALTH SCIENCES UNIVERSITY CENTER FOR RESEARCH ON OCCUPATIONAL AND ENVIRONMENTAL TOXICOLOGY POSTDOCTORAL RESEARCH ASSOCIATE

Newly created, state-supported, multidisciplinary center in neuroscience-rich environment has postdoctoral research associate position available immediately to study molecular mechanism of axonal degeneration in toxic neuropathy. Candidates with Ph.D. and background in neurochemistry, neurotoxicology, or pharmacology, with experience in studies on axonal transport, 2-D gel electrophoresis, autoradiography, HPLC, and molecular biology preferred. Salary is negotiable, based on experience and qualifications. Excellent benefits package is offered. Send curriculum vitae, references, and statement of research interests by 31 July 1989 to: **Dr. P. S. Spencer, Director and Senior Scientist, Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, 3181 S.W. Sam Jackson Park Road, L474, Portland, OR 97201-3098.** *Oregon Health Sciences University is an Equal Opportunity/Affirmative Action Employer.*

**RESEARCH ASSOCIATE** position for Ph.D. with strong background in molecular neurobiology to study nerve growth factor gene expression. Experience with cloning, DNA sequencing, and in vitro transcription and protein/DNA interaction assays required. Hospital-based laboratory, 8:00 a.m. to 5:00 p.m., 40 hours per week; salary to \$23,000. Send curriculum vitae and three letters of recommendation by 1 August 1989 to: **Box 92, SCIENCE.**

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

**RESEARCH LEADER,** Brucellosis Research Laboratory, National Animal Disease Center (NADC), Ames, Iowa.

ARS is seeking a Research Leader to lead its Brucellosis Research Unit at the NADC. This individual will: (i) supervise and maintain a qualified scientific staff and technical personnel, efficiently manage financial resources allocated to the Unit, and review research progress with Lead Scientists; (ii) conduct original research and serve as Lead Scientist for one of the Unit's research projects; and (iii) advise the Center Director, Area Director, and National Program Staff regarding the Unit's research program.

The candidate must have knowledge and skill in communication and leadership, knowledge of infectious diseases of animals or humans, expert knowledge and research experience in one of the following disciplines: veterinary medicine, microbiology, immunology, biochemistry, or pathology.

Ph.D. is desirable. *Must be U.S. citizen.* Salary is commensurate with experience (\$41,121 to \$57,158). For information on the research program and/or position, contact: **Dr. Harley W. Moon, Director, NADC 515-239-8201.** For information on application procedures/forms, contact: **Janie E. Carr on 301-344-4569.** Applications in response to this advertisement should be marked 9N025.

Applications must be received by 17 July 1989.

Mailing address:

**Attention: Janie Carr**  
USDA, Agricultural Research Service  
North Central Section  
Building 419, BARC-East  
Beltsville, MD 20705  
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Position available for **RESEARCH SCIENTIST.** The position involves biomedical research with emphasis placed upon protein studies. Techniques include: Recombinant protein refolding and purification; enzyme kinetics; FPLC experience; isotope assay; site-directed mutagenesis; DNA cloning; Ultra-centrifugation; and column chromatography. Must be knowledgeable in immunology and cell biology. Ph.D. degree in biochemistry/molecular biology required. Forty hours per week; Monday through Friday; 8:30 a.m. until 5:30 p.m. Salary of \$1600 per month. *Equal Opportunity Employer.* Send résumé to: **Oklahoma State Employment Service, Job Order #091121, 3740 Springlake Drive, Oklahoma City, OK 73111.**

## POSITIONS OPEN

**PRINCIPAL-SCIENTIST—GERIATRIC ONCOLOGY**—40 hours per week, 8:00 a.m. to 5:00 p.m., \$50,000 per year. Job duties: Direct the research in the area of geriatric oncology (cancer research), performing experiments on the nature and origin of solid tumors and hematologic malignancies (leukemias). Study in particular the genetic lesions that appear to be present in some of these malignancies by (i) identifying the affected genes; (ii) cloning them, and (iii) studying the changes present in the genetic sequences (DNA). Establish cell cultures and cell lines from such malignancies and also from brain autopsies of patients with Alzheimer's disease, Parkinson's disease, and normal control brains. Biological material will also be studied at the genetic and epigenetic level, i.e., for gene alteration and the phenotype. Will supervise the daily activities of one research assistant, two laboratory technicians, and one senior research associate.

Requires a Ph.D. degree in molecular oncology or pathology and 4 years of experience in the related occupation in molecular oncology and pathology in cancer research. Other special requirements: working knowledge of: (i) cell cultures and cell lines from solid and hematologic malignancies and from brain biopsies of Alzheimer's and Parkinson's disease patients. (ii) Genetic abnormalities in human cancer cells by DNA/RNA analysis (Southern-Northern blotting; DNA cloning and sequencing) and by protein studies (Western blotting; immunoprecipitation; immunocytochemistry).

Apply by résumé: **DES/JS, Attention 732A, Department of Economic Security, P.O. Box 6123, Phoenix, AZ 85005 RE: JB #0803138;** Job Location: Sun City, Arizona; Employer-paid ad. *Must show proof of authorization to work in the United States if hired.*

### RESEARCH ASSOCIATE ASSISTANT PROFESSOR SENIOR RESEARCH ASSOCIATE/ASSOCIATE PROFESSOR

Individuals are being sought for positions with the Division of Surgical Sciences of the Department of Surgery at the University of Minnesota through 31 August 1992. Research associate should have a minimum of 1 year of experience and the senior research associate should have 5 years of experience. A Ph.D. in biometry or epidemiology is required. Qualifications for the secondary, without-salary appointments are: Assistant professor—demonstrated involvement in quality research accepted or published in peer-reviewed journals; associate professor—professional distinction in research and writing and demonstrated effectiveness in teaching and advising. Duties include study design, data analysis, and management of mainframe and micro data bases. The major focus will be study of long-term follow-up of transplant recipients. Computer experience and experience in survivorship analysis is preferred. A joint appointment in the Department of Biometry is possible. Please send curriculum vitae and three references by 1 August 1989 to: **Arthur J. Matas, M.D., Department of Surgery, University of Minnesota, Box 328, UMHC, Minneapolis, MN 55455.** *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

**SENIOR SCIENTIST**—Responsible for the scientific leadership for a group involved in the development of novel chromophoric and chelating organic molecules for in vitro and in vivo diagnostic and therapeutic applications. Synthesis expertise is required in the preparation of novel chelating agents for magnetic resonance imaging and nuclear medicine, as well as experience in the preparation of isotope-labeled compounds to monitor chelate synthesis. These new compounds will be synthesized and coupled to biomolecules such as antibodies, carrier proteins, and enzymes. Minimum requirements include a doctoral degree in organic chemistry with emphasis in the synthesis of natural products. Also required is at least 18 months of postdoctoral experience in the synthesis of natural products and polycyclic aromatic pigments, including techniques such as infrared, ultraviolet, mass and high field (XL-300 and 400) nuclear magnetic resonance spectrometry. Chromatography expertise in high pressure liquid chromatography and flash column chromatography is required. Salary is \$36,000 per year for a 5-day, 40-hour work week. Qualified applicants respond with résumé only to: **J.O. #9925, Massachusetts Department of Employment Security, Special Programs Department, 19 Staniford Street, Boston, MA 02114.**



## Federal Senior Executive

**Salary Range: \$68,700 - \$80,700**

**Location: Greenbelt, Md.**

Goddard Space Flight Center is seeking qualified candidates for the position of Chief, Laboratory for Terrestrial Physics. The Laboratory conducts research seeking to advance the state of knowledge in the Earth sciences and aid in the improved management of the resources of the Earth through the application of remote sensing and other space technology. The incumbent will provide leadership in planning, implementing, directing, and coordinating a comprehensive program of Earth sciences research activities in concert with Goddard technology development programs.

Applicants must possess a Doctorate or equivalent experience and demonstrated knowledge in one of the geosciences; e.g., geology, geodynamics, hydrology and/or terrestrial ecosystems, as well as research and development skills in the field of Earth remote sensing, relevant to studies of global geoscience topics. Evidence of research productivity, i.e., a record of publication in technical and scientific journals, is required.

Candidates should submit a resume and/or Application for Federal Employment (SF-171), and a record of publications to the Goddard Space Flight Center, Office of Human Resources, Code 115 FSE, Greenbelt, MD 20771. For additional information and statement of required qualifications contact Ms. Stephanie A. Fontenot at (301) 286-8319. Equal Opportunity Employer. United States Citizenship Required.

## INSECT PHYSIOLOGY

FMC Corporation, a Fortune 150 leader in the field of Agricultural Chemical Research, is seeking an accomplished scientist in the area of insect physiology to join in a research effort in the discovery of novel insecticides. The successful candidate will work with a team of biochemists, biologists and chemists to develop and implement rational approaches to the discovery of insecticides.

The position requires a Ph.D. in Insect Physiology or Biology, with 1-2 years post-doctoral or industry experience preferred. A broad background in physiology is desirable with expertise in one or more of the following areas: insect developmental physiology, insect neuroendocrinology, insect neurophysiology or molecular entomology that can be applied to the discovery of new insecticides.

FMC offers an R&D center in a prime location, challenging work, and excellent benefits and a salary commensurate with your experience. Please forward your resume to: **Melody Evans, Dept. 89-24, FMC Corporation, Chemical R&D Center, Box 8, Princeton, NJ 08543.** Equal Opportunity Employer, M/F. Females are encouraged to apply.



## RESEARCH SCIENTISTS

Integrated DNA Technologies, Inc. is seeking qualified scientists to conduct research and development work in exciting new areas of clinical diagnostics and therapeutics. These positions will provide an opportunity for original research and leadership within a growing organization.

All positions require a Ph.D. degree; relevant postdoctoral or industrial experience would be desirable.

**NUCLEIC ACID/BIO-ORGANIC CHEMIST:** Experience in nucleic acid synthesis, nucleoside or base modification, and affinity/solid support chemistry.

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**MOLECULAR BIOLOGIST:** Experience in recombinant DNA technology and DNA probe hybridization systems related to cancer/oncology and genetic disorders.

In addition to a stimulating scientific environment, we offer a competitive compensation/benefit package and relocation assistance. IDT is located in a new research facility in an attractive midwestern community and is in close proximity to a major university and medical school complex. Please send a resume and description of research experience to: Personnel Director, Integrated DNA Technologies, Inc., 1710 Commercial Park, Coralville, Iowa 52241.

**IDT** INTEGRATED  
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## STAFF SCIENTIST Cardiac Physiologist/ Pharmacologist

Norwich Eaton Pharmaceuticals, Inc., A Procter & Gamble Company, has an immediate opportunity in its Research Division for a highly motivated and talented professional, interested in the area of cardiotonic drug discovery. This position requires the ability to establish new in-vivo models as needed and to design, execute and interpret in-vivo cardiovascular experiments. The preferred candidate will have a Ph.D. degree in cardiovascular physiology/pharmacology with 3-5 years of postdoctoral experience. Proficiency in verbal and written communication skills is a must.

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## POSITIONS OPEN

**RESEARCH INSTRUCTOR** with 2 years of experience in the technic of quantitative in situ hybridization of pancreatic islets to direct and teach this methodology in the diabetes center and to perform related research. Requires M.D. or Ph.D. and 2 years of postdoctoral research in directly related area, a sound background in endocrinology, molecular and cell biology, and histology. Salary: \$25,000. Send curriculum vitae to: **Dr. Roger Unger, Director, Diabetes Research, University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-8854. An Affirmative Action/Equal Opportunity Employer.**

**RESEARCH SCIENTIST:** Ph.D. in biology and minimum of 2 years of pre- or postdoctoral molecular biology laboratory experience required. Will work on projects/studies of basic molecular neurobiology and regulation of genes relevant to mental function. Please send curriculum vitae and names of three references to: **Joan Harmon, Personnel Department, New York University Medical Center, 550 First Avenue, New York, NY 10016. Equal Opportunity Employer M/F.**

### SOCIAL SCIENTIST

The International Rice Research Institute (IRRI) is seeking candidates for the position of Social Scientist, located at its headquarters in Los Baños, Philippines.

**Responsibilities:** The Social Scientist conducts research with biological scientists in integrated analysis of physical, biological, and socioeconomic constraints, and assessing the social and economic viability of new technology. The Social Scientist will work as a member of a multidisciplinary team in the development of participatory research methods and with national program scientists. Ph.D. degree in anthropology, sociology, or agricultural economics and 2 years of research after Ph.D. and field experience working with small farms and national institutions required.

**Applications:** Submit curriculum vitae, date of availability, and names and addresses of three references by 31 July 1989 to: **Dr. H. G. Zandstra, Deputy Director General for Research, IRRI, P.O. Box 933, Manila, Philippines. FAX: (63-2)817-8470.**

### TECHNICAL WRITER/ SOFTWARE EDUCATOR

The Genetics Computer Group (GCG) at the University of Wisconsin-Madison is seeking an individual with superior writing and interpersonal skills to do technical writing and user education for its Sequence Analysis Software Package. The GCG Software Package is used by biologists for the analysis of protein and DNA sequences. Applicants must have a minimum of a B.A. in journalism or biology and at least 1 year of experience in writing computer documentation. Previous teaching experience as well as knowledge of computers and molecular biology is also recommended. Send résumé with references to: **Genetics Computer Group, 1710 University Avenue, Madison, WI 53705. Telephone: 608-263-8970.**

**TECHNOLOGY TRANSFER ASSISTANT DIRECTOR**—Temple University, a major comprehensive research university, has an immediate opening for an assistant director in its Office of Technology Transfer. In addition to obtaining patent protection and commercialization for faculty inventions, the Office also assists faculty in securing corporate research support.

The successful candidate will assist the Director in all phases of the technology transfer process, including: evaluating the patentability and the commercial potential of inventions; locating potential licensees or research partners; serving as liaison between faculty, patent counsel, and corporate representatives, negotiating license and other agreements; developing publications, reports, and other written materials. Qualifications are: a graduate degree (Ph.D. preferred) in chemistry, biology, or other biomedical science discipline (familiarity with molecular biology a plus); and experience in a university setting working with researchers and faculty.

Qualified candidates should send a résumé including salary history and the names and addresses of three references to: **Harry A. Young, Director of Employment, Temple University, Personnel Services, 1601 North Broad Street, Philadelphia, PA 19122.** Review of applications will start 15 July 1989 and will continue until the position is filled. *Applications from women and underrepresented minorities are strongly encouraged. Temple University is an Equal Opportunity Employer.*

## POSITIONS OPEN

### U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE SOUTHERN FOREST EXPERIMENT STATION

**SUPERVISORY RESEARCH ENTOMOLOGIST/PROJECT LEADER** in Pineville, Louisiana. Provides technical and administrative leadership in three primary research problem areas, which are: effects of current control techniques on southern pine beetle populations and beetle dispersal; development of adequate techniques to predict the onset, duration, and severity of southern pine beetle outbreaks; and the development of adequate prevention and suppression techniques to achieve desired reduction in southern pine beetle damage in a cost effective manner. Send letter of interest and résumé to: **Richard Quick, Personnel Management Specialist; or Dr. Stanley J. Barras, Assistant Director-West at Southern Forest Experiment Station, Room T-10210 USFSB, 701 Loyola Avenue, New Orleans, LA 70113 through 15 July 1989. The USDA, Forest Service is an Equal Opportunity/Affirmative Action Employer and encourages letters from women and minorities.**

### CENTER FOR ENERGY AND ENVIRONMENT RESEARCH UNIVERSITY OF PUERTO RICO

The Terrestrial Ecology Division invites applications for a full-time position in **TERRESTRIAL ECOLOGY** to participate in studies of forest ecosystems in connection with the Luquillo Experimental Forest Long-Term Ecological Research (LTER) Program. Requirements include a Ph.D. in a relevant field, a strong publication record, the ability to work closely with other scientists, and a willingness to develop a research program centered on tropical rain forest. A knowledge of Spanish would be useful. The successful applicant will be based either at the El Verde Field Station in the Luquillo Experimental Forest or in San Juan, depending on research interests. While the field of specialization is open, applicants with training in ecosystem ecology and experience in modeling and/or insect population ecology are particularly encouraged. Applicants should send a statement of research interests and curriculum vitae by 1 September 1989 to: **Personnel Office, Center for Energy and Environment Research, College Station, Mayaguez, PR 00708.**

*CEER is an Equal Opportunity Employer M/F/H/V.*

**TOXICOLOGIST/CLINICAL CHEMIST**—M.D., CP Board-certified in pathology or Ph.D. clinical chemistry and toxicology certification. Ph.D. with training in toxicology in academic tertiary care medical center required. Demonstrated research capability and productivity in basic and/or applied areas of toxicology and clinical chemistry. Experience in undergraduate/graduate education. *Women and minorities are encouraged to apply.* Please forward curriculum vitae and summary of background to: **John E. Craighead, M.D., Chairman, Department of Pathology, University of Vermont, Burlington, VT 05405.** Applications will be accepted until position is filled. *Affirmative Action/Equal Opportunity Employer.*

**UNIT DIRECTORS: DIAGNOSTIC MOLECULAR BIOLOGY AND GENERAL IMMUNOLOGY.** Rush Medical College and the Office of Consolidated Laboratory Services at Rush-Presbyterian-St. Luke's Medical Center are seeking top quality professionals for key positions in our growing clinical laboratories. Successful candidates will direct the clinical and technical aspects of the laboratory, participate in educational programs for pathology residents and for medical technology, medical, doctoral, and postdoctoral students; and teach in the University. Candidates should be committed to service, research, and education and will be expected to develop a strong, independent research or research and development program. Specific responsibilities in the laboratory, professorial rank in Rush Medical College, and salary will depend upon the candidate's training and expertise. Applicants must have an M.D. and/or Ph.D. or equivalent degree. Preference to applicants who are Board-certified or eligible or equivalent. Submit curriculum vitae, a statement of research interests, and the names of three references by 21 July 1989 to: **Meryl Haber, M.D., Medical Director, Office of Consolidated Laboratory Services, Rush-Presbyterian-St. Luke's Medical Center, 1653 West Congress Parkway, Chicago, IL 60612. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### URBAN PLANT ECOLOGIST TENURE-TRACK FACULTY POSITION

The Center for Urban Horticulture, University of Washington, seeks an urban plant ecologist to participate in research, teaching, and public service programs. Must develop innovative research in description, analysis, or management of plants in human-dominated landscapes. Will teach courses in ecology of urbanizing areas and urban forestry. Training and experience in community, physiological, restoration, ecosystem, or landscape ecology preferred. Send letter of application, résumé, official transcripts, and names of five references to: **Dr. H. B. Tukey, Center for Urban Horticulture, University of Washington, Seattle, WA 98195. Telephone: 206-543-8616. Closing date: 15 September 1989. Equal Opportunity Employer/Affirmative Action.**

**VIROLOGIST. M.D. OR Ph.D.** The Center for Biotechnology, Baylor College of Medicine, The Woodlands, Texas, is a newly developed unit directed toward technology transfer. A graduate program leading toward the Ph.D. degree has just been established. We seek a well-qualified molecular virologist at the assistant professor level. The program will be broadly based and will involve molecular mode of action of antivirals and a variety of other research activities. Mail résumé to: **Dr. V. Knight, 4000 Research Forest Drive, The Woodlands, TX 77380.**

## CONFERENCES

### THIRD INTERNATIONAL CONFERENCE ON MOLECULAR BIOLOGY AND PATHOLOGY OF MATRIX Philadelphia, Pennsylvania 13 to 16 June 1990

Current research in the field of collagen and other extracellular matrix molecules will be presented by invited international experts. Poster sessions will also be held. For information, please write:

**Darwin J. Prockop, M.D., Ph.D.**  
Jefferson Institute of Molecular Medicine  
Jefferson Medical College  
Thomas Jefferson University  
Philadelphia, PA 19107  
Telephone: 215-928-2025 or 215-928-4830

### CONFERENCE ON: MYELINATION AND DYSMYELINATION Sponsored by The New York Academy of Sciences Key Bridge Marriott Alexandria, Virginia 16 to 18 November 1989

For further information: **Conference Department, The New York Academy of Sciences, 2 East 63rd Street, New York, NY 10021. Telephone: 212-838-0230.**

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# VISION & TECHNOLOGY

## RESEARCH AND DEVELOPMENT OPPORTUNITIES AT MILES DIAGNOSTICS DIVISION

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Career opportunities for creative staff and senior scientists (B.S., M.S., and Ph.D. levels) interested in working as part of a multidisciplinary team with the mission to create new state-of-the-art technology for future generations of diagnostic systems. Individuals with a track record of innovation, high personal motivation, good communication skills, and the ability to work as part of a professional team will find these positions highly rewarding. Expertise in immunotechnology, film technology, electrochemistry, polymer processing, or biochemical technology is highly desirable.

### Diabetes Diagnostics

Research and development positions are available for highly motivated, mission oriented individuals, at the staff and senior scientist level (M.S. and Ph.D.) to develop innovative diagnostic reagents and systems for improved diabetes healthcare management. Product development experience, good communication and interpersonal skills, as well as expertise in one or more of the following are required: diagnostic reagent optimization, diabetes metabolism, enzymology, immunochemistry, or dry phase or membrane reagent systems.

### Blood Chemistry and Urinalysis

Opportunities are available for innovative Ph.D. scientists (Analytical, Physical, Biological, or Clinical Chemistry) with proven track records of product development and productivity. Individuals with a sense of urgency, a desire to bring testing closer to the patient, and the ability to work within highly professional and well resourced project teams will find these opportunities highly challenging and rewarding. Expertise in reagent development, computer assisted data acquisition and analysis, dry phase chemistry, or lipid chemistry, is highly desirable.

### Instrument Engineering

Develop leading edge diagnostic systems for laboratory, office, or personal applications. Opportunities exist for highly motivated, creative engineers at the B.S. to Ph.D. levels, in the areas of electronic hardware/software, optical, and mechanical systems design and development. Hardware experience desired in analog and digital electronics, microprocessor systems, sample handling, absorbance, reflectance, and fluorescence spectroscopy. Software experience in instrument control, data management, C, PLM, Basic, and expert systems programming language are preferred.

### Technical Management

Several challenging and highly rewarding management opportunities are available for exceptional individuals with demonstrated track records of leadership, accomplishment, creativity, and productivity. If you are an experienced scientific manager with a background of diagnostic product development, new technology, or clinical affairs, we would like to talk to you.

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