

account for an astounding 73% of the camelid bones in the terminal preceramic period, possibly as a result of high newborn mortality in muddy, disease-ridden corrals. The same data also indicate a predominant occupation of Telarmachay in the rainy season, the birth time of camelids. One wonders what part of the neonate percentage is due to seasonality of occupation, as opposed to domestication. A suggestion that domestication is not the predominant factor comes from the remains of the never-domesticated deer, 40% of whose bones are from newborn animals on the average. Some very specific activities may have been carried out at Telarmachay that are not representative of the larger puna area.

This raises the major issue of where Telarmachay fits within the context of other known puna preceramic sites. Lavallée clearly identifies Telarmachay as a seasonal occupation, varying from light to rather intensive utilization by a relatively small group of hunters or herders. The quantity of remains in the site and the site size generally confirm this assessment; many Junín preceramic cave sites offer much better shelter and have archeological deposits of much greater extent and content. This apparent secondary camp status may further limit the validity of using Telarmachay as the sole basis for a general model of early puna prehistory.

Telarmachay is located quite close to lower-altitude zones and shows evidence of having been a seasonal element of a settlement system that spanned considerable environmental variety below the puna. This is in notable contrast to other sites more centrally located in the Junín puna, which seem to reflect a more local subsistence pattern and year-round occupation. This variety in Junín settlement patterns needs to be explored, and not taken as representing mistaken interpretations.

What is most impressive in this landmark publication is the richness of the data, which is a product of meticulous excavation and detailed reporting. Lavallée provides an analysis of the chipped-stone tool assemblage that is unparalleled in the Andean area and extensively ponders the thorny issue of the use of different stone tool classes. She assembles both microwear and technologist collaborators to detect tool function but remains necessarily cautious on most assignments. Hunter-gatherer period archeologists will be gratified to know, however, that she has found overwhelming evidence that the classic endscraper or "grattoir" form is indeed predominantly a hidescraping tool, often associated with the use of hematite as a probable tanning agent.

Overall, Lavallée has assembled ten highly qualified archeologists and specialists to

provide a level of expertise across the range of recovered remains which has never been seen for the Andes, and rarely in the New World. Her promise of more volumes on the later levels of the site and the faunal remains makes this dedication to a single site all the more impressive. It will take similar work at many other early Andean sites to place Telarmachay in a broader perspective, but this volume clearly provides a model for others to follow.

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Books Received

Antidepressants and Receptor Function. Wiley-Interscience, New York, 1986. viii, 295 pp., illus. \$47.50. Ciba Foundation Symposium 123 (London, Nov. 1985).

Applications in Nuclear Data and Reactor Physics. D. E. Cullen, R. Muranaka, and J. Schmidt, Eds. World Scientific, Singapore, 1986 (U.S. distributor, Taylor and Francis, Philadelphia). xii, 994 pp., illus. \$72. From a workshop, Trieste, March 1986.

Applied Analysis. Allan M. Krall, Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). x, 561 pp., illus. \$89.50. Mathematics and Its Applications.

Applied Anthropology in America. Elizabeth M. Eddy and William L. Partridge, Eds. 2nd ed. Columbia University Press, New York, 1987. xiv, 571 pp. \$50; paper, \$19.

Bacterial Outer Membranes as Model Systems. Masayori Inouye, Ed. Wiley-Interscience, New York, 1987. x, 450 pp., illus. \$85.

A Basic Atlas of Radio-Wave Propagation. Shigekazu Shibuya. Wiley-Interscience, New York, 1987. xxiv, 778 pp., illus. \$69.95. Translated from the Japanese edition (1983) by Haruo Ishizuka.

Behavioral Biology of Killer Whales. Barbara C. Kirkevoed and Joan S. Lockard, Eds. Liss, New York, 1986. xvi, 457 pp., illus. \$79.50. Zoo Biology Monographs, vol. 1.

Beyond Einstein. The Cosmic Quest for the Theory of the Universe. Michio Kaku and Jennifer Trainer. Bantam, New York, 1987. xiv, 225 pp., illus. Paper, \$8.95.

Bioactive Analytes, Including CNS Drugs, Peptides, and Enantiomers. Eric Reid, Bryan Scales, and Ian D. Wilson, Eds. Plenum, New York, 1986. xiv, 422 pp., illus. \$69.50. Methodological Surveys in Biochemistry and Analysis. From a forum, Guildford, U.K., Sept. 1985.

The Chemistry of the Actinide Elements. Joseph J. Katz, Glenn T. Seaborg, and Lester R. Morss. 2nd ed. Chapman and Hall (Methuen), New York, 1987. Two volumes. xxiv, 1674 pp., illus. + indexes. \$350.

Chernobyl and Nuclear Power in the USSR. David R. Marples. St. Martin's, New York, 1987. xii, 228 pp. \$35; paper, \$14.95.

Chesterton, a Seer of Science. Stanley L. Jaki. University of Illinois Press, Champaign, IL, 1986. x, 165 pp. \$12.50. From a lecture series, Notre Dame, IN, April 1983.

Chlamydial Infections. David Oriol *et al.*, Eds. Cambridge University Press, New York, 1986. xviii, 583 pp., illus. \$59.50. From a symposium, Sanderstead, Surrey, U.K., June 1986.

The Civilized Engineer. Samuel C. Florman. St. Martin's, New York, 1987. xiv, 258 pp. \$15.95.

Clays and Ceramic Raw Materials. W. E. Worrall. 2nd ed. Elsevier, New York, 1986. x, 239 pp., illus. \$49.50.

The Clinical Roots of the Schizophrenia Concept. Translations of Seminal European Contributions on Schizophrenia. John Cutting and M. Shepherd, Eds. Cambridge University Press, New York, 1986. viii, 238 pp. \$54.50.

The Cocaine Crisis. David Allen, Ed. Plenum, New York, 1987. xvi, 253 pp. \$49.50. From a symposium, Nassau, Bahamas, Nov. 1985.

Detergency. Theory and Technology. W. Gale Cutler and Erik Kissa, Eds. Dekker, New York, 1987. vi, 550 pp., illus. \$99.75. Surfactant Science Series, vol. 20.

Developments in Bladder Cancer. Louis Denis *et al.*, Eds. Liss, New York, 1986. xxiv, 328 pp., illus. \$58. EORTC Genitourinary Group Monograph 3. Progress in Clinical and Biological Research, vol. 221. From a conference, Antwerp, Belgium, June 1985.

The Dialectical Biologist. Richard Levins and Richard Lewontin. Harvard University Press, Cambridge, MA, 1987. xiv, 303 pp. Paper, \$8.95. Reprint, 1985 edition.

Dictionary of Aerospace Engineering. Mikhail Grigor'yevich Kotik. Elsevier, New York, 1986. 879 pp. \$170. Text in Russian, English, and German.

Ecology, Recreation and Tourism. John M. Edington and M. Ann Edington. Cambridge University Press, New York, 1986. viii, 200 pp., illus. \$39.50; paper, \$15.95.

Ecophysiology of Spiders. Wolfgang Nentwig, Ed. Springer-Verlag, New York, 1987. xii, 448 pp., illus. \$149.

Experiencing Emotion. A Cross-Cultural Study. Klaus R. Scherer, Harald G. Wallbott, and Angela B. Summerfield, Eds. Cambridge University Press, New York, 1986. xiv, 302 pp. \$39.50. European Monographs in Social Psychology.

Exploring the Night Sky with Binoculars. Patrick Moore. Cambridge University Press, New York, 1986. 203 pp., illus. \$19.95.

Extrachromosomal Elements in Lower Eukaryotes. Reed B. Wickner *et al.*, Eds. Plenum, New York, 1986. x, 568 pp., illus. \$85. Basic Life Sciences, vol. 40. From a symposium, Urbana, IL, June 1986.

Factors of Evolution. The Theory of Stabilizing Selection. I. I. Schmalhausen. Theodosius Dobzhansky, Ed. University of Chicago Press, Chicago, 1986. xxii, 327 pp., illus. Paper, \$14.95. Translated from the Russian by Isadore Dordick. Augmented reprint, 1949 edition.

General Chemistry. Donald A. McQuarrie and Peter A. Rock. 2nd ed. Freeman, New York, 1987. xxiv, 876 pp., illus. \$39.95.

A Genetic Approach to Plant Biochemistry. A. D. Blonstein and P. J. King, Eds. Springer-Verlag, New York, 1986. xii, 291 pp., illus. \$69. Plant Gene Research.

Genetic Disease. Screening and Management. Thomas P. Carter and Ann M. Wiley, Eds. Liss, New York, 1986. xiv, 411 pp., illus. \$46. From a symposium, Albany, Sept. 1985.

Genetic Disorders and the Fetus. Diagnosis, Prevention, and Treatment. Aubrey Milunsky, Ed. 2nd ed. Plenum, New York, 1986. xxviii, 895 pp., illus. \$89.50.

Genetic Manipulation in Plant Breeding. W. Horn *et al.* Eds. De Gruyter, New York, 1986. xx, 909 pp., illus. \$189. From a symposium, Berlin, F.R.G., Sept. 1985.

The Genetics of Microbes. Brian W. Bainbridge. 2nd ed. Blackie, Glasgow, and Chapman and Hall, New York, 1987. x, 214 pp., illus. \$49.95; paper, \$24. Tertiary Level Biology.

Introduction to Physical Chemistry. M. F. C. Ladd and W. H. Lee. Cambridge University Press, New York, 1986. xx, 347 pp., illus. \$49.50; paper, \$19.95.

Introduction to Proteins and Protein Engineering. Barry Robson and Jean Garnier. Elsevier, New York, 1986. xviii, 699 pp., illus. \$190.

Introduction to Semiconductor Device Modeling. Christopher M. Snowden. World Scientific, Singapore, 1986 (U.S. distributor, Taylor and Francis, Philadelphia). xvi, 222 pp., illus. \$37.

An Introduction to the Orchids of Mexico. Leon A. Wiard. Comstock (Cornell University Press), Ithaca, NY, 1987. 239 pp., illus. \$75.

The Language of Nuclear War. An Intelligent Citizen's Dictionary. Eric Semler, James Benjamin, and Adam Gross. Harper and Row, New York, 1987. x, 326 pp. \$22; paper, \$9.95.

Laser Interaction and Related Plasma Phenomena. Vol. 7. Heinrich Hora and George H. Miley, Eds. Plenum, New York, 1986. xviii, 927 pp., illus. \$129.50. From a workshop, Monterey, CA, Oct. 1985.

Laser-Plasma Interactions 3. M. B. Hooper, Ed. Scottish Universities Summer School in Physics, Edinburgh, 1986. xviii, 386 pp., illus. £30. From a summer school, St. Andrews, Scotland, Aug. 1985.

Light and Photosynthesis in Aquatic Ecosystems. John T. O. Kirk. Cambridge University Press, New York, 1986. xii, 401 pp., illus. Paper, \$24.95.

Linguistic Theory in America. Frederick J. Newmeyer. 2nd ed. Academic Press, New York, 1986. xiv, 280 pp., illus. \$44.95; paper, \$19.95.

(Continued on page 1688)

Products & Materials

Recombinant Protein for Protein Folding

THIOREDOXIN is a recombinant thiol protein with a molecular weight of approximately 12,000 that is produced in *Escherichia coli*. It acts as a disulfide interchange agent to unscramble proteins. It eliminates the disulfuration of cysteine and protein cross-linking experienced with many in vitro folding methods. Chemical Dynamics. Circle 654.

Membrane for Cell Culture

The Millicell-CM Culture Plate Insert has a transparent, low protein-binding Biopore membrane. This membrane allows growing cells to be viewed by either bright-field or phase-contrast microscopy. The surface of the membrane may be customized with cell-matrix coatings such as laminin or fibronectin to allow adhesion of attachment-dependent cells, and it exhibits little or no background fluorescence. The membrane prevents loss of growth factors, mediators, and protein secretions. The growth environment of the Millicell-CM Culture Plate Insert resembles in vivo conditions more than the growth environment of plastic plates. Millipore. Circle 655.

FORTTRAN-Callable Graphics Software

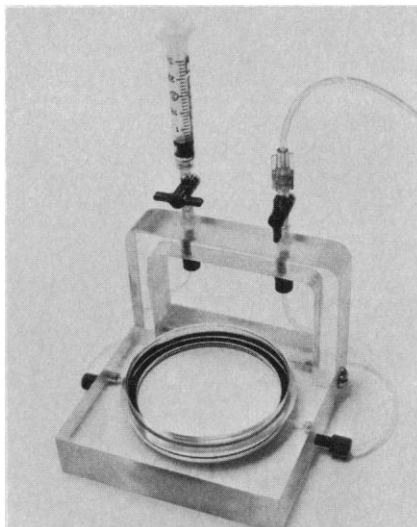
GRAFMATIC is a library of FORTRAN routines for creating two- and three-dimensional scientific and engineering computer-screen graphics. The user can customize primitives such as color, cursor, character, pixel, and line. Features include automatic scaling, axis generation, tick mark labeling, and error bars; 3-D rotation, scaling, and translation; solid models with hidden line removal and wire frame models; cubic spline interpolations, least squares fits, and screen dump; and function plots, tabular plots, log-parametric-contour plots, bar charts, and pie charts. GRAFMATIC's sister program,

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

PLOTMATIC, sends the results to a pen plotter rather than to the screen. GRAFMATIC and PLOTMATIC operate on the IBM PC and compatible computers. Microcomputables. Circle 538.

Hybridization Apparatus

The Washing Machine is a minimum-volume chamber that performs hybridization through the sequential buffer wash in minutes. As many as 20 blots may be processed at once. The temperature is con-



trolled by immersion in a water bath. The self-cleaning chamber is decontaminated automatically during the buffer wash cycle. Both vacuum-drive probe solutions and waste materials may be collected in a vacuum trap. Molecular Biology Resources. Circle 662.

Amino Acid Analyzer

The AminoTag Amino Acid Analyzer is a completely automated precolumn derivatization high-performance liquid chromatograph for quantitative analysis of protein hydrolysate amino acids. It can analyze both primary and secondary amino acids at trace levels. Derivatized amino acids are separated by reversed-phase chromatography. The system uses fluorescence detection. Varian Instrument Group. Circle 660.

Stereo Microscope

The Stereozoom 6 Plus microscope has a 21-mm field of view that allows the user to see more of the specimen and to scan quickly at low power. Also, the microscope incorporates adjustable stops; the operator can see the entire zoom range with less than one-

third of a revolution of the control knob. The optics are designed to match the color correction response of the human eye. The magnification range is $\times 2$ to $\times 240$, with a 6:1 zoom ratio and a $\times 0.67$ to $\times 4.0$ parfocal zoom range. Bausch & Lomb, Optical Systems Division. Circle 657.

Flow Cytometry Standards

Pre-Mounted Microbead Standards are slides mounted with cell-sized microbead standards maintaining the aqueous spectral properties of the fluorochromes. By mounting a slide on the stage of a fluorescence microscope and adjusting the fluorescence to maximum intensity, the user can determine if the microscope is aligned properly or if the optimum barrier filters are being used. Among the standards included in the slide kits are fluorescein, Texas red, and Fura-2. Flow Cytometry Standards. Circle 658.

Chemical Structure Software

ChemSmart is a software program for manipulating chemical structures. Each record consists of a graphic representation of a compound's structure, as well as information on the compound's name, molecular formula, and molecular weight. The program comes with a library of 250 organic compounds; optional databases include anti-inflammatory agents, heterocycles, herbicidal compounds, steroid-antifertility compounds, and nucleosides-nucleotides. ChemSmart operates on IBM PC, XT, AT, and compatible computers with 256 kilobytes of random-access memory and an IBM Color Graphics Board or Enhanced Graphics Board. ISI Publishing. Circle 533.

Literature

Strong Anion Exchange HPLC for Proteins is a fact sheet describing the advantages of a macroporous polymeric matrix for analytical and semipreparative applications. Polymer Laboratories. Circle 528.

Silver Anniversary Catalog describes more than 800 products for cell culture, including sera, liquid and powdered media, biochemicals, reagents, growth and attachment factors, media and antibiotics for molecular genetics, and disposable plasticware. GIBCO Laboratories. Circle 530.

Databord is an 18-page brochure about ergonomically designed, modular computer furniture. Krueger. Circle 541.

(Continued from page 1686)

Mental Disorder and Legal Control. Philip Bean. Cambridge University Press, New York, 1986. x, 207 pp., illus. \$49.50.

Metal Ions in Biological Systems. Helmut Sigel, Ed. Vol. 22, ENDOR, EPR, and Electron Spin Echo for Probing Coordination Spheres. Dekker, New York, 1987. xxvi, 290 pp., illus.

Method and Theory for Activity Area Research. An Ethnoarchaeological Approach. Susan Kent, Ed. Columbia University Press, New York, 1987. xii, 643 pp., illus. \$35.

Methods for the Mycological Examination of Food. A. D. King *et al.*, Eds. Plenum, New York, 1986. xii, 315 pp., illus. \$55. NATO Advanced Science Institutes Series A, Life Sciences, vol. 122. From a workshop, Boston, MA, July 1984.

Molecular Cloning of Hormone Genes. Joel F. Habener, Ed. Humana, Clifton, NJ, 1986. xviii, 441 pp., illus. \$64.50. Molecular Biology and Biophysics.

Neurochemical Analysis of the Conscious Brain. Voltammetry and Push-Pull Perfusion. Robert D. Myers and Peter J. Knott, Eds. New York Academy of Sciences, New York, 1986. xii, 560 pp., illus. \$140. Annals of the New York Academy of Sciences, vol. 473. From a symposium, New York, Dec. 1986.

Neurochemistry. Fundamentals and Concepts. Ferdinand Hucho. VCH, New York, 1986. xvi, 326 pp., illus. \$39.50. Translated from the German edition by Margaret Dickens.

Neuromodulation. The Biochemical Control of Neuronal Excitability. Leonard K. Kaczmarek and Irwin B. Levitan, Eds. Oxford University Press, New York, 1987. xii, 286 pp., illus. \$29.95.

Neurotransmitter Interactions in the Basal Ganglia. M. Sandler, C. Feuerstein, and B. Scatton, Eds. Raven, New York, 1986. xviii, 253 pp., illus. \$45.

Never Satisfied. A Cultural History of Diets, Fantasies and Fat. Hillel Schwartz. Free Press (Macmillan), New York, 1986. viii, 468 pp., illus. \$19.95.

Once upon the Future. A Woman's Guide to Tomorrow's Technology. Jan Zimmerman. Pandora (Routledge and Kegan Paul), New York, 1987. xviii, 230 pp., illus. Paper, \$10.95.

Orchids from Curtis's Botanical Magazine. Samuel Sprunger, Ed. Catalogue and Index by Samuel Sprunger. Introduction by Phillip Cribb. Cambridge University Press, New York, 1986. 525 pp., illus. \$150.

Organic Pollutants in Water. Sampling, Analysis, and Toxicity Testing. I. H. Sugget and Muragan Malaiyandi, Eds. American Chemical Society, Washington, DC, 1987. xvi, 797 pp., illus. \$94.95. Advances in Chemistry Series, 214. From a symposium, Philadelphia, Aug. 1984.

Pascal Programming. A Beginner's Guide to Computers and Programming. Chris Hawksley. 2nd ed. Cambridge University Press, New York, 1986. xiv, 193 pp., illus. \$34.50; paper, \$9.95.

People and Computers. Designing for Usability. M. D. Harrison and A. F. Monk, Eds. Cambridge University Press, New York, 1986. xiv, 650 pp. \$59.50. British Computer Workshop Series. From a conference, York, U.K., Sept. 1986.

Psychology in America. A Historical Survey. Ernest R. Hilgard. Harcourt Brace Jovanovich, San Diego, CA, 1987. xxx, 1009 pp., illus. \$35.95.

The Psychology of Perspective and Renaissance Art. Michael Kubovy. Cambridge University Press, New York, 1986. xvi, 192 pp., illus. \$39.50.

Public Health Action in Emergencies Caused by Epidemics. A Practical Guide, P. Brès. World Health Organization, Geneva, 1986 (available from WHO Publications Center, Albany, NY). xii, 287 pp., illus. \$29.40.

Publishing Opportunities for Energy Research. A Descriptive Guide to Selective Serials in the Social and Technical Sciences. Roberta A. Scull, compiler. Greenwood, New York, 1986. xvi, 403 pp. \$49.95. Bibliographies and Indexes in Science and Technology, no. 1.

Rat Man. Stuart Schneiderman. New York University Press, New York, 1986 (distributor, Columbia University Press, New York). x, 117 pp. \$25.

Surfactant Biodegradation. R. D. Swisher. 2nd ed. Dekker, New York, 1987. xxvi, 1085 pp., illus. \$149.75. Surfactant Science Series, vol. 18.

Sustainable Development of the Biosphere. William C. Clark and R. E. Munn, Eds. Published on behalf of the International Institute for Applied Systems Analysis by Cambridge University Press, New York, 1986. viii, 491 pp., illus. \$29.50; paper, \$17.95.

Symmetries in Science II. Bruno Gruber and Romuald Lenczewski, Eds. Plenum, New York, 1986. x, 607 pp., illus. \$85. From a symposium, Carbondale, IL, March 1986.

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Biochemist, Ph.D. (1979). Medicinal chemistry, M.Sc. International teaching with research experience in enzyme purification and characterization. Seeks any suitable position. Languages—English, French, and Arabic. Box 87, SCIENCE. 6/26; 7/3

Biochemist, Ph.D. Research areas include protein purification, membrane biochemistry, cell culture, and electron microscopy. Strong background in physical biochemistry, especially fluorescence spectroscopy. Three years of postdoctoral experience. Publications, former grant awardee. Seeks research position in industry or academics. Box 97, SCIENCE. X

POSITIONS WANTED

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Broad-Based Biologist, excellent teacher, seeks teaching/undergrad research position in college/smaller university to teach cell, genetics, microbiology, development, histology, microtechniques, invertebrate, entomology. Ph.D. entomology, 1985, 12 years of research experience genetics, development. Excellent references. Box 98, SCIENCE. 6/26; 7/3

Microbiologist, B.A., 1981. Seven years of research experience in bioactive natural product isolation (TLC, LC, HPLC, DCCC, chromatotron) and bioassay (MIC, bioautography, Ames) seeks industrial position. Box 94, SCIENCE. 6/26; 7/3

Pathologist, M.D. (1980). Certified AP/CP with strong interest in comparative pathology. Experienced in surgical pathology, electron microscopy, and microbiology. Seeks challenging position in comparative medicine in research/industry. Available July 1988. Box 88, SCIENCE. X

Social Scientist, B.A. with research in social psychology/ergonomics and a strong background in physical and life science seeks research position in northeast. Reply to 111 Lafayette Road, Suite 616, Syracuse, NY 13205. X

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Send a complete résumé, transcripts, and three letters of reference to: Dr. D. D. Stimpson, Chairman, Department of Animal and Veterinary Sciences, University of Maine, 128 Hitchner Hall, Orono, ME 04469. Review of applications will begin 15 July 1987.

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Lowell

Experimental Physicist/ Astrophysicist Tucson, Arizona

The Advanced Development Program of the National Optical Astronomy Observatories has a vacancy for an Experimental Physicist or Astrophysicist with an extensive and broad background in materials science and in astronomical optics. The candidate is expected to lead our inhouse R&D effort in new telescope technology and to interact closely with related efforts in the U.S. university community and abroad. Applicants must have a Ph.D. in Physics or Astronomy and should have a demonstrated record of analysis of and experimentation with complex opto-mechanical systems. This is a senior position whose rank and pay will be commensurate with the qualifications of the candidate. For further information you may contact J.M. Beckers (602-325-9226). Please submit a curriculum vitae, bibliography and description of experience, and the names of three references before August 15, 1987 to:

Judy Ruffino, Personnel Manager
National Optical Astronomy Observatory
P.O. Box 26732
Tucson, AZ 85726

An EEO/AA Employer

Toxicologist Environmental Toxicology/ Quality Assurance

Allied-Signal Inc., a Fortune 25 corporation, has an opening in the Corporate Toxicology Department for an individual with experience in Environmental Toxicology and Quality Assurance. You should have a Bachelor's or Master's degree in Toxicology or related field and at least three years of industrial experience. Preference will be given to candidates who have laboratory experience in aquatic toxicity testing and quality assurance programs.

Responsibilities will include effectively working with and monitoring contract research and testing laboratories to design and perform aquatic toxicity and biodegradation studies. Assuring compliance with Good Laboratory Practices for both environmental and mammalian toxicology test programs is also required. An integral function of this position is the ability to work effectively in a collaborative setting. Demonstrated skills in scientific writing and organization of data are required.

Position is located at our Corporate Headquarters in Morristown, New Jersey. You will enjoy an excellent starting salary, comprehensive benefits and opportunities for professional advancement. Relocation assistance will be provided. For prompt consideration send your resume and salary history to: Mrs. E.V. Lord, Employment Supervisor, Corporate Technology, Allied-Signal Inc., P.O. Box 1021R, Dept. AQ, Morristown, New Jersey 07960.

An Equal Opportunity Employer



POSITIONS OPEN

ASSISTANT PROFESSOR, MICROBIOLOGIST. Southeastern College of Osteopathic Medicine invites applications for faculty position in microbiology. Successful candidate should have a strong commitment to teaching. Will be expected to help teach courses in medical microbiology and supervise microbiology teaching laboratories. Submit letter and names of three references to: **Harold E. Laubach, Ph.D., Assistant Dean, Basic Sciences, SECOM, 1750 NE 168th Street, North Miami Beach, FL 33162.** *Equal Opportunity Employer.*

ASSISTANT PROFESSOR, TOXICOLOGY. Tenure-track position in the Department of Pharmacology and Toxicology, Ph.D. in toxicology, pharmacology, or a closely related field and postdoctoral experience required. Participation in undergraduate and graduate level teaching and development of externally funded research program expected. Research interest in renal, hepatic, reproductive, or developmental toxicology will be given preference, although well-qualified applicants in other areas are also invited to apply. Applications will be reviewed beginning 1 August 1987 and thereafter until the position is filled. Submit statement of research interest, résumé, and names of three references to: **Dr. Zahir A. Shaikh, Search Committee Chair, Assistant Professor, Toxicology (160069) Position, The University of Rhode Island, P.O. Box G, Kingston, RI 02881.** *The URI is an Affirmative Action and Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF BIOCHEMISTRY

Twelve-month tenure-track position. To teach biochemistry at the Indiana University School of Medicine. Applicant must possess an earned doctoral degree in biochemistry with at least 2 years of postdoctoral experience. The successful candidate is expected to develop independent/collaborative research and graduate education programs. Academic duties include shared lecture and laboratory responsibility in the freshman Medical Biochemistry Program. Submit curriculum vitae and three letters of recommendation to: **Dr. Walter X. Balcavage, Chairman, Biochemistry Search Committee, Terre Haute Center for Medical Education, Indiana University School of Medicine, 135 Holmstedt Hall, Terre Haute, IN 47809.** *Indiana University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF LIPID/MEMBRANE BIOCHEMISTRY. Available immediately. Atlanta University seeks applicants for a tenure-track appointment at the assistant professor level in the Department of Chemistry for fall 1987. Applicants who will develop a vigorous research program in lipid/membrane biochemistry including ion and molecule transport, membrane fine-structure, lipid-protein interactions, etc. are sought. The University is solely a graduate institution, and M.S. and Ph.D. degrees are offered in chemistry. Applicants should submit curriculum vitae, a letter discussing current and future research plans, and three letters of reference to: **Dr. Henry Zeidan, Department of Chemistry, Atlanta University, Atlanta, GA 30314** by 30 July 1987. *Atlanta University is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITY OF FLORIDA

ASSISTANT PROFESSOR, MOLECULAR PATHOGENESIS. The Department of Immunology and Medical Microbiology at the University of Florida College of Medicine invites applications for tenure-track appointments from individuals using modern molecular technology to address questions related to the pathogenesis of infectious agents. Applicants should hold the Ph.D., M.D., or equivalent degree and have postdoctoral training. Tentative starting date, 1 January 1988, or thereafter. The Department of Immunology and Medical Microbiology has begun a second phase of expansion which will reach maturity when new research facilities under construction become available in the near future. Applicants should submit curriculum vitae, present and future research plans, and the names of three references to: **Dr. William W. Hauswirth, Chairman, Search Committee, Department of Immunology and Medical Microbiology, Box J-266, JHMHC, College of Medicine, University of Florida, Gainesville, FL 32610.** The recruiting deadline is 1 September 1987. *Equal Employment Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR, NEUROSCIENCE FACULTY/RESEARCH POSITION for appropriate Ph.D. Qualifications and experience must include strong graduate or medical school teaching skills and significant research accomplishments. Applicant must have postdoctoral experience and a proven track record. Send curriculum vitae, statement of proposed research, and names of three references to: **Gloria Semente, Director of Special Projects, New York College of Osteopathic Medicine, Old Westbury, NY 11568.**

UNIVERSITY OF FLORIDA

ASSISTANT PROFESSOR, MOLECULAR IMMUNOLOGY. The Department of Immunology and Medical Microbiology at the University of Florida College of Medicine invites applications for tenure-track appointments from individuals using molecular technology to address questions related to molecular aspects of the immune system. Applicants should hold the Ph.D., M.D., or equivalent degree and have postdoctoral training. Tentative starting date, 1 January 1988, or thereafter. The Department of Immunology and Medical Microbiology has begun a second phase of expansion which will reach maturity when new research facilities under construction become available in the near future. Applicants should submit curriculum vitae, present and future research plans, and the names of three references to: **Dr. William W. Hauswirth, Chairman, Search Committee, Department of Immunology and Medical Microbiology, Box J-266, JHMHC, College of Medicine, University of Florida, Gainesville, FL 32610.** The recruiting deadline is 1 September 1987. *Equal Employment Opportunity/Affirmative Action Employer.*

BIOPHYSICIST (CANCER RESEARCH SCIENTIST)—Requires Ph.D. in biophysics with experience in protein chemistry, radioactive materials, amino acid analysis, and enzymology. Development of human fibroblast interferon purification procedures, isolation of plasmids and nucleases, DNA structure study, development of new and refined methods of interferon purification for clinical trials, and characterization of tumor growth factors. Salary: \$31,000 per year. Mail résumé to: **NYS Job Service, 584 Delaware Avenue, Buffalo, NY 14202.** #0103542—DOT 041.061 034.

UNIVERSITY OF WESTERN AUSTRALIA PERTH CHAIR IN BIOCHEMISTRY

Applications are invited for appointment to the Chair in Biochemistry at the University of Western Australia vacant as a result of the death of **Professor I. T. Oliver.**

Further information (including the full advertisement and conditions of appointment) should be obtained from: **The Assistant Registrar (Staffing), Mr. Brian Galbraith or from the Head of the Department of Biochemistry, Associate Professor Peter Hartmann, University of Western Australia, Nedlands, Western Australia 6009.** Applications close 28 August 1987. *Equal Employment Opportunity is University Policy.*

Washington State University invites applications for the position of **CHAIR, DEPARTMENT OF VETERINARY MICROBIOLOGY AND PATHOLOGY.** This is a tenured professor position. Qualifications required are a Doctor of Veterinary Medicine degree (or equivalent), a Ph.D. in one of the disciplines included in the Department (immunology, microbiology, parasitology, or pathology), and administrative experience. The Chair is expected to provide academic and administrative leadership for the instructional, research, and service programs of the Department. Candidates should apply before 15 September 1987. Applicants should send curriculum vitae, a cover letter indicating how personal qualifications and goals will enhance the department, and the names of three references to: **Dr. Travis C. McGuire, College of Veterinary Medicine, Department of Veterinary Microbiology and Pathology, Washington State University, Pullman, WA 99164-7040.**

Washington State University is an Equal Opportunity/Affirmative Action Employer. Members of ethnic minorities, women, Vietnam-era or disabled veterans, persons of disability, and/or persons between the ages of 40 and 70 are encouraged to apply.

POSITIONS OPEN

CHAIRPERSON, DEPARTMENT OF NEURO-ONCOLOGY—The University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute is recruiting a Chairperson for its Department of Neuro-Oncology. This is a prestigious position with 12 faculty positions and supporting clinical and laboratory programs. Candidate must have an established reputation as a clinician and investigator with interests in research related to brain tumors. Clinical expertise and administrative experience in academic setting essential. Send curriculum vitae to: **Gerald P. Bodey, M.D., Chairman, Neuro-Oncology Search Committee, Division of Medicine, Box 47, Houston, TX 77030.** *An Affirmative Action/Equal Opportunity Employer.*

CHAIR OF EPIDEMIOLOGY AND BIOSTATISTICS CASE WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE

Applications and nominations are invited for the Chair of the Department of Epidemiology and Biostatistics. Candidates should be distinguished researchers committed to academic excellence. *Case Western Reserve University is an Equal Opportunity Employer.* Applications and nominations should be sent to:

**Dr. Herbert S. Rosenkranz
Chairman of the Search Committee
Department of Environmental Health Sciences
Case Western Reserve University School of Medicine
Cleveland, OH 44106**

3M BERT CROSS CHAIR IN NEUROSCIENCES/VISION RESEARCH. The University of Minnesota invites nominations and applications for the 3M Bert Cross Chair. We are looking for a distinguished individual in neuroscience with a major interest in vision research. It is intended that the recipient of the Chair shall hold a full-time tenured faculty appointment at the rank of Professor in a basic science or clinical department in the Medical School and contribute to the Neuroscience Graduate Program; additional joint appointments will be considered. We seek a candidate with a Ph.D., an M.D., or both degrees, or equivalent foreign degree. The individual must have outstanding academic credentials, evidence of major contributions to an area of research in vision, and sustained grant support. This Professor will establish a research program which will attract other faculty, fellows, students, and visiting scientists for collaborative investigations. Funding of the 3M Bert Cross Chair will provide considerable freedom and resources to establish and maintain the recipient's research program at the University of Minnesota. Nominations and applications are to be sent no later than 30 September 1987 to: **Donald J. Doughman, M.D., Professor and Head, Department of Ophthalmology, University of Minnesota Medical School, UMHC Box 493, 516 Delaware Street SE, Minneapolis, MN 55455.**

The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

CHAIRPERSON DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY DARTMOUTH MEDICAL SCHOOL

Applications or nominations are invited for the James C. Chilcott Distinguished Professorship and Chair of the Department of Pharmacology and Toxicology at Dartmouth Medical School. An excellent opportunity exists for growth of this department with positions to be filled and opportunities for interaction with developing programs in neuroscience, molecular genetics, endocrinology, immunology, and cancer.

Candidates should have proven leadership ability and must be nationally recognized for their scientific contributions in pharmacology, toxicology, or a closely allied field. Responsibilities include administration of professional and graduate teaching and of research programs within the department. Active support of interdisciplinary programs is also expected.

Each application should be accompanied by curriculum vitae and the names of four references. Applications and nominations should be addressed to: **Dr. William J. Culp, Department of Biochemistry, Dartmouth Medical School, Hanover, NH 03756.** *Dartmouth is an Equal Opportunity/Affirmative Action Employer.*

NATIONAL INSTITUTE ON AGING
National Institutes of Health
Public Health Service

The Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, invites applications for a Fellowship position to study the pharmacokinetics and cerebral metabolism of central nervous system agents. Research will involve: (1) methods development for the quantitation of drugs and metabolites in plasma and tissue, (2) relating pharmacokinetic data to brain imaging results, and (3) molecular modification of drugs to enhance their brain penetration. The position is that of a Fellow with a salary range of \$17,000 to \$47,788 per annum commensurate with qualifications, and is located in Bethesda, Maryland.

Experience in high performance liquid chromatography, gas chromatography and mass spectrometry is desirable.

Applications are invited from individuals having a Ph.D. in Pharmacology or a Chemistry discipline. Interested candidates should submit their Curriculum Vitae to **Stanley I. Rapoport, M.D., Chief, Laboratory of Neurosciences, National Institute on Aging, Building 10, Room 6C 103, 9000 Rockville Pike, National Institutes of Health, Bethesda, Maryland, 20892, USA.**

An Equal Opportunity Employer

Biologist

The Agricultural Research Division of American Cyanamid Company wishes to recruit a Biologist in the Biochemistry and Physiology Group of the Department of Animal Industry Discovery and Biotechnology.

This individual will join a team concerned with identifying and establishing immunological methods of modifying hormone activity towards enhancing animal production. The successful candidate will be capable of developing bioassay and immunoassay techniques for hormone and antibody measurement and have the ability to design production experiments in commercially relevant species.

Applications are sought from candidates with a BSC/MSc in endocrinology/physiology with experience in one or more of the areas outlined above. A knowledge of the hormonal control of animal production would be an advantage.

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



American Cyanamid Company
Agricultural Research Division
P.O. Box 400
Princeton, New Jersey 08540
An Equal Opportunity Employer M/F/H

PHARMACOLOGIST

Ph.D. level with 1-3 years industrial or post-doctoral experience in Anti-Inflammation/Immunomodulation drug discovery research in Autoimmune Diseases. High degree of interest essential, strong knowledge of relevant scientific literature necessary, and familiarity with computer usage desirable.

BIOFOR, INC. is located in Northeastern Pennsylvania near the beautiful Pocono Mountains. We offer a competitive salary with opportunity for substantial growth.

Send resume to:

BIOFOR, INC.

P.O. Box 577

Waverly, PA 18471

Attn: Stewart Wong, Ph.D.

Director, Autoimmune Disease Research

Announcing a Conference on Susceptibility to Inhaled Pollutants

SEPTEMBER 29-OCTOBER 1, 1987
The Hilton Hotel, Williamsburg, Virginia

The Clean Air Act requires that susceptible individuals be protected as well as the general population. To explore some of the implications of this problem, this conference will focus on the responsiveness of the respiratory system to inhaled pollutants. Participants will include leading scientists from various fields: inhalation toxicology, biochemistry, engineering, pulmonary medicine, epidemiology and statistics. Discussion topics include:

- Basic Determinants of Susceptibility
- Demographics of Susceptible Populations
- Factors Affecting Pulmonary Dosimetry
- Asthma and Non-Asthmatic Models of Susceptibility
- Major Areas of Uncertainty and Critical Research Needs

The conference will be co-chaired by Dr. Mark J. Utell, Professor of Medicine and Toxicology and Co-Director, Pulmonary and Critical Care Unit, The University of Rochester School of Medicine and Dr. Robert Frank, Professor of Environmental Health Sciences and Deputy Director of the Environmental Health Sciences Center, School of Hygiene and Public Health, The Johns Hopkins University.

It is being sponsored by the American Petroleum Institute, American Lung Association, American Society for Testing and Materials, Environmental Protection Agency, Electric Power Research Institute, Health Effects Institute, and The Natural Resources Defense Council.

Registration Fee for the Workshop is \$150
Lodging and Meals will be extra

Participation is limited and by Pre-Registration only

For further information, contact:

Mrs. Madeleine Sellouk
Health and Environmental Sciences Department
American Petroleum Institute
1220 L Street, N.W.
Washington, D.C. 20005
202-682-8332

POSITIONS OPEN

DIRECTOR—BOTANIC GARDEN SANTA BARBARA, CALIFORNIA

Sixty-five acres plus herbarium, requires now an exceptional individual to lead it into the 21st century. Responsibilities: Lead, motivate, manage, and direct 35 staff to plan and implement programs of display, education, and research; establish interinstitutional links; undertake fund-raising; act as spokesman; be technical adviser to the Board. Qualifications: Scientist with leadership skills, to manage annual budget approaching \$1 million, written/oral communication skills; fund-raising experience; and ability to manage research. Salary: competitive/commensurate with experience; health and retirement plans.

Submit résumé in confidence to: **Mr. Philip Thresher, President, Santa Barbara Botanic Garden, c/o P.O. Box 50437, Santa Barbara, CA 93105.** Job description on request. Appointment date soonest but to suit successful applicant.

DIRECTOR: COMPUTER CORE/IMAGE ANALYSIS FACILITY

Internationally recognized brain research laboratory at a major medical center seeks a scientist with a background in quantitative image analysis and interactive computer graphics. This individual should have experience with UNIX systems and a desire to work in a research environment. While an advanced degree (M.S. or Ph.D.) in computer science is desirable, a suitable candidate might otherwise be a neuroscientist whose interest has shifted to computer science. Interpersonal and management skills are required as this individual will help coordinate and plan the future direction of the research activities of the facility, select system hardware for purchase, supervise (and hire) technical staff and interact with other scientists.

This is an academic position at the assistant professor or associate research professor level.

Send résumé to: **D. J. Reis, Laboratory of Neurobiology, Cornell University Medical College, 411 East 69th Street—KB410, New York, NY 10021.** *Equal Opportunity Employer/Affirmative Action/M/F/H/V.*

ENTOMOLOGY SCIENTIFIC ASSISTANT

The Department of Entomology of the American Museum of Natural History is seeking a scientific assistant to assist the curatorial staff in curating the collection of Hymenoptera including incorporation of new specimens into the collection, specimen preparation and arrangement, loan preparation, research projects, dissections, scientific illustrations, field work, library research, and preparation of manuscripts. Qualified candidates must have a baccalaureate degree in the biological sciences including studies in organismic biology and preferably course work and/or experience in entomology; skills in scientific illustration; ability to do detailed and meticulous work and knowledge of PCs and word processing. Salary \$18,604 per annum. Excellent benefits. For consideration, submit résumés to: **Mr. Lee Vilensky, Personnel Department (S), American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.** *An Equal Opportunity Employer.*

ENVIRONMENTAL RESEARCH SCIENTIST for central Ohio firm to conduct research and development in areas of water chlorination, adsorption of organic pollutants onto activated carbon, fate of organic pollutants in environment, and catalytic interactions of organic chemicals with solid surfaces such as activated carbon, sediments, and soils; involves experimental research and mathematical modeling, statistical data analysis, and writing technical reports and articles. Requires Ph.D. in environmental science with ten graduate-level semester hours in water and waste-water engineering, plus 2 years of experience as environmental analyst. Combined academic program and employment experience must have included 3 years of hands-on experience with gas chromatography and gas chromatography/mass spectroscopy; 3 years of computer modeling experience in areas of mass transfer and chemical kinetics; and 1 year performing statistical data analysis using computer statistical packages. Must also have six water chemistry/treatment publications in peer-reviewed journals. Forty hours per week, \$3075 per month. Qualified applicants reply immediately with résumé to: **R. Lechler, JO# 3023771, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

POSITIONS OPEN

FBI LABORATORY/ MOLECULAR BIOLOGIST

The Forensic Science Research Unit of the FBI Laboratory invites applications for a master's or postdoctoral fellow level individual to assist with research to develop or apply molecular biology methods for the analysis of body fluids/stains. The candidate should have experience in RFLPs, dot blots, DNA sequencing, and cloning. Please send résumé and names of three references by 1 August 1987, to: **SA Michael G. Noblett, Research Unit Chief, Forensic Science Research and Training Center, FBI Academy, Quantico, VA 22135.** Starting salary level is \$22,400 to \$35,300, commensurate with experience. *The FBI is an Equal Opportunity Employer.* U.S. citizenship required.

ESTUARINE SCIENTIST

The Academy of Natural Sciences' Benedict Estuarine Research Laboratory has an opening for an estuarine research scientist in its Patrick Scholars Program. The position is fully funded for 2 years, after which the successful applicant will be considered for permanent appointment depending on program needs and financing. Although applicants with interests in any area of estuarine research may apply, we are soliciting:

- 1) A microbial ecologist/biogeochemist with research interests in the degradation of pollutants/carbon cycling in sediments and the water column, or;
- 2) An ecologist with research interests in population genetics.

Candidates must have a Ph.D. and, preferably, postdoctoral experience. Applications received by 24 July 1987 will be given full consideration. Applicants should submit curriculum vitae, a statement of research interests, and the names, addresses, and telephone numbers of three references to: **Chairman, Patrick Scholar Search Committee, Benedict Estuarine Research Laboratory, Benedict, MD 20612.**

FACULTY OPENINGS BIOTECHNOLOGY

Faculty positions are available at the full professor, associate professor, and assistant professor levels in **The Center for Biotechnology at Baylor College of Medicine.** This Center is located in a new Baylor building in The Research Forest of The Woodlands, a 25,000-acre wooded community 30 miles north of Houston. The Center consists of the following divisions: (i) Hybridoma Technology, (ii) Recombinant DNA Technology, (iii) Protein Engineering, (iv) Bioorganic Chemistry, (v) Vision Research, and (vi) Cellular and Molecular Neurobiology. Applicants should have research backgrounds in one of these areas. Exceptional candidates may also be considered for positions as Division Heads. Although academic excellence is the determining factor in the selection process, experience and interest in biotechnological applications are also desirable. Please send résumé, names of several references, and a brief description of research experience and future goals to:

**Dr. Dominic Man-Kit Lam, Director
The Center For Biotechnology
Baylor College of Medicine
4000 Research Forest Drive
The Woodlands, TX 77381**

An Equal Opportunity/Affirmative Action Employer.

GENE EXPRESSION

The Laboratory of Molecular Endocrinology at the Massachusetts General Hospital seeks a **POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE** to work on the regulation of polypeptide hormone genes. Experiences in recombinant DNA techniques is preferable, but not essential. The laboratory is focused on studies of the cis and trans factors that lend cell-specific expression to polypeptide hormone genes. A microchemical facility for protein sequencing-synthesis and DNA synthesis is available. Salary and rank are commensurate with experience. Send curriculum vitae and two letters of recommendation to: **J. Habener, Chief, Laboratory of Molecular Endocrinology, Massachusetts General Hospital, Boston, MA 02114.**

POSITIONS OPEN

GEOCHEMICAL MODELER— DATA MANAGER

Northrop Services, Inc. is seeking an M.S. level (preferably with experience) environmental scientist to participate in the Watershed Research Group. The group's research focuses on understanding and modeling the effects of episodic events, primarily involving acidic deposition on aquatic ecosystems. Applicants should have experience using numerical models involving geochemical or transport processes, must be proficient in FORTRAN, have strong quantitative skills, have good written and verbal communication skills, and be willing to work in a large, multidisciplinary group. Detailed position description available upon request. Send résumé and the names, addresses, and telephone numbers of three references to: **Susan Carey, Human Resources, Northrop Services, Inc., 1600 SW Western Boulevard, Corvallis, OR 97333.** *Northrop Services, Inc., is an Equal Opportunity Employer.*

NATIONAL SCIENCE FOUNDATION (NSF) WASHINGTON, D.C. DIVISION OF MATERIALS RESEARCH

NSF's Division of Materials Research is seeking qualified candidates for the executive position of Head, Condensed Matter Sciences Section (CMS). The CMS Section consists of four programs—solid-state physics, solid-state chemistry, low-temperature physics, and condensed matter theory. This Senior Executive Service position, with a salary range of ES-1 (\$64,700) to ES-4 (\$73,400), may be filled on a permanent or a 1- to 3-year limited term (rotational) basis.

A Ph.D. or equivalent experience in one of the related science disciplines is required. Substantial research administrative experience and recognized professional standing are essential.

Applicants should contact: **Margaret Cademartori on 202-357-7601 (hearing impaired individuals may call TDD 202-357-7492)** to request announcement EP-87-5 (career appointment) or EP-87-15 (limited term appointment). These announcements contain additional qualification requirements as well as instructions concerning application procedures. Applications must be received by 15 September 1987.

Affirmative Action/Equal Opportunity Employer.

MAST CELL BIOLOGIST, Ph.D., with knowledge of molecular biology for junior faculty position at the Eye Research Institute. Must be willing to work on ocular mast cells and their relationship to ocular allergic diseases. Strong possibility of Harvard appointment. Send letter, résumé, and list of three references to: **Mathea R. Allansmith, M.D., Eye Research Institute, 20 Staniford Street, Boston, MA 02114.** *Affirmative Action/Equal Opportunity Employer M/F/H/V and others.*

MOLECULAR IMMUNOLOGIST— BIOCHEMIST— CELL BIOLOGIST

The Laboratory of Immunology, of the National Institute of Allergy and Infectious Diseases, National Institutes of Health (NIAID/NIH), Public Health Service, intends to make an appointment at the independent scientist level. Individuals with interests and training in membrane biochemistry or cell biology are particularly sought but all qualified candidates are encouraged to apply. The successful candidate will be expected to conduct a program of independent research and will be appointed at a level appropriate to scientific qualifications. Contact: **Dr. William Paul, Building 10, Room 11N311, NIAID/NIH, 9000 Rockville Pike, Bethesda, MD 20892; telephone: 301-496-5046.** U.S. citizenship required. *An Equal Opportunity Employer.*

NEUROSCIENCE IMAGE ANALYSIS. Immediate position for recent doctorate in neuroscience or computing science, with specialization in image analysis. Candidates should be Canadian citizens or permanent residents. Projects include three-dimensional reconstruction of neurons, autoradiographs, and cerebral blood vessels. We offer an NSERC Industrial Research Fellowship, an informal, research-oriented work environment, and an adjunct appointment at Brock University. Contact: **Dr. Peter Ramm, Imaging Research Inc., Brock University, St. Catharines, Ontario, Canada L2S 3A1.** Telephone: 416-646-1033.

PUBLIC HEALTH SERVICE

National Institutes of Health National Institute of Neurological and Communicative Disorders and Stroke (NINCDS)

NIH position, tenure or tenure track, available in the Laboratory of Molecular Biology (NINCDS), for a research scientist with expertise in genetic engineering, protein purification and analysis, biochemistry of receptors or membrane transport or any combination thereof and with experience or strong interest in neurobiology. The laboratory works on the molecular mechanism and developmental control of macromolecules important in the brain, especially those concerning the metabolism, transport and receptor properties of aspartate, glutamate and gamma-aminobutyrate as neurotransmitters. The applicant would directly supervise two junior scientists and assist the Lab Chief in running the laboratory. Send vitae, statement of research interest, and the names and telephone numbers of four references to **Ernst Freese, Associate Director of Basic Neuroscience, DIR; NIH, Building 36, Room 5A05; 9000 Rockville Pike, Bethesda, Maryland 20892; (301) 496-5468**. U.S. citizenship is required. NIH is an Equal Opportunity Employer.



ASIAN DEVELOPMENT BANK

The Asian Development Bank is an international finance institution based in Manila, Philippines established for the purpose of lending funds, promoting investments and providing technical assistance and, generally, for fostering economic growth in developing countries in the Asian-Pacific region. Its membership comprises forty-seven countries, thirty-two of which are from the Asian-Pacific region and fifteen from Western Europe and North America. The Bank's headquarters is in Manila, Philippines.

The Bank offers challenging opportunities to highly qualified and experienced professionals who seek employment on a career or fixed-term basis. Applications are invited for the following position:

ENVIRONMENT SPECIALIST

The position is in the Environment Unit and will review and assess the potential environmental impacts of Bank-assisted projects. The Environment Specialist is expected to participate in country programming, loan and technical assistance processing and project implementation missions as well as participate in different Bank country strategy and sector studies. The position will also assist in the preparation of resource documents for dissemination and use of the Bank's staff and its developing member countries and in education and training in environmental planning and management.

Candidates should have a Masters or higher degree in environmental assessment with qualifications in agriculture, irrigation, fishery or natural resources planning and management. They should have at least seven years' professional experience in handling environmental aspects of economic development in developing countries, particularly in Asia, including demonstrated skills in project formulation and implementation.

Professional experience in resource economics, remote sensing, social analysis of projects or other relevant areas in the Bank's DMCs is preferred.

Fluency in written and spoken English is essential.

Staff and their families will be based in Manila, but the position involves international travel. The position offers a competitive salary paid in U.S. Dollars, normally free of tax, and an excellent benefits package.

Interested persons are invited to send to the following address their curriculum vitae, including present salary and details of work experience, quoting REF. NO. 8704-C, to:

REF. NO. 8704-C
HUMAN RESOURCES DIVISION
ASIAN DEVELOPMENT BANK
P.O. BOX 789
MANILA, PHILIPPINES

Senior Research Scientists

THE LILLY RESEARCH LABORATORIES, a Division of Eli Lilly and Company, is seeking applicants for positions in our division of Molecular and Cell Biology. The laboratories are located in a new state-of-the-art research facility at the Lilly Corporate Center.

Molecular Immunology (B₁) This position requires a Ph.D. preferably with 2-4 years post-doctoral experience. The scientist should have experience cloning mammalian genes and be familiar with techniques such as site directed mutagenesis. In addition, there should be evidence of a strong interest in immunology and the genetics of molecules involved in the immune response including cytokines and antibodies.

Transgenic Animal Research (B₂) We are seeking a doctoral level scientist skilled in the techniques of microinjection, embryo transplantation, and mammalian cell culture. Post doctoral experience with recombinant DNA techniques such as plasmid construction, hybridization, and transformation is desirable. The scientist will join an interdisciplinary team developing transgenic animals as models of human diseases.

Qualified candidates should send their curriculum vitae to:



John W. Crooks, Manager
College Relations (SBR)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285

Equal Opportunity Employer

POSITIONS OPEN

MOLECULAR VIROLOGY DEPARTMENT OF MICROBIOLOGY UNIVERSITY OF VIRGINIA

Applications are invited for a tenure-track position in molecular virology at the assistant or associate professor level. Position will include joint appointment in the Cancer Center. Candidates will be expected to maintain an active, independent research program, and to engage in limited teaching of graduate and medical students. The department offers a stimulating environment, including well-equipped facilities, and well-funded graduate and postdoctoral training programs. Applicants should submit curriculum vitae, a statement of current research activities and future plans, and the names of three people from whom letters of recommendation can be requested to: **Dr. Robert R. Wagner, Chairman, Department of Microbiology, University of Virginia School of Medicine, Box 441, Charlottesville, VA 22908.**

An Equal Opportunity/Affirmative Action Employer

NEUROBEHAVIORAL SCIENCE POSTDOCTORAL POSITIONS

Applications are invited for an interdisciplinary neuropsychobiological research training program. The program objectives are to facilitate the development of investigators who are familiar with the integrated concepts of neuropsychobiology as well as their individual anatomical, biochemical, physiological, or clinical research specialties. This year three major, rapidly developing research vectors that relate to the nervous system and are based primarily on recent technological developments have been incorporated into the program, that is, molecular genetics, neuropsychimmunology, and in vivo metabolic imaging. In addition to the intensive research experience in one or more laboratory disciplines, the conceptual basis of neurosciences as it relates to an understanding of the normal and maladaptive development of human neurobiology and behavior is emphasized in a series of seminars and symposia. For further information and application forms contact:

Dr. Everett H. Ellinwood, Jr.
Neuroscience Research Training Program
Duke University Medical Center
P.O. Box 3870
Durham, NC 27710

Affirmative Action/Equal Opportunity Employer.

NEUROPHYSIOLOGY POSTDOCTORAL POSITION to study synaptic mechanisms and electrical excitability in vertebrate CNS neurons. Projects center on hippocampal pyramidal neurons and cerebellar Purkinje neurons in culture. Several electrophysiological techniques will be used, with the emphasis on the single-channel recording technique. Send inquiries, curriculum vitae, and names of references to: **Dr. Donna Gruol, Division of Preclinical Neuroscience, Research Institute of Scripps Clinic, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

NEUROSCIENCE-NEUROANATOMY POSTDOCTORAL FELLOW HARVARD MEDICAL SCHOOL

To work on limbic connections, cholinergic pathways, aging, dementia. U.S. citizenship or permanent residency required. Curriculum vitae and three letters of reference to: **M. Mesulam, M.D., Neurology Department, Beth Israel Hospital, 330 Brookline Avenue, Boston, MA 02215.**

PATHOLOGIST

Dynamac Corporation is a biomedical and environmental research firm with an immediate opening for a toxicologic pathologist at its Product Safety Assessment Division in Research Triangle Park, North Carolina.

A D.V.M., Ph.D., and/or Board certification in veterinary pathology is required—1 to 3 years of industrial experience in toxicologic pathology is desirable.

Dynamac Corporation offers competitive salaries and a fully paid employee benefits package. To apply, please send résumé in confidence to:

Dynamac Corporation
P.O. Box 13706
Research Triangle Park, NC 27709-3706
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POSITIONS OPEN

PERMANENT TRACK POSITION in immunology and molecular biology for person with M.D. and/or Ph.D. degree. Applicant should have experience in the techniques of molecular biology and conducting research related to the ontogeny and differentiation of immunocompetent cells and/or the pathogenesis of virally induced immune abnormalities. This position is in the Department of Immunology which conducts basic research and has active predoctoral and postdoctoral programs. Excellent start-up funds are available for the establishment of the laboratory. Will receive academic appointment commensurate with his/her qualifications. Send curriculum vitae and brief description of research interests to: **G. J. Gleich, M.D., Department of Immunology, Mayo Medical School and Mayo Foundation, Rochester, MN 55905. An Equal Opportunity/Affirmative Action Institution.**

PEPTIDE CHEMIST

SRI International, an R&D firm on the San Francisco Peninsula, is currently looking for a Ph.D. chemist with 2 to 5 years of postdoctoral experience in solution and solid-phase peptide syntheses. The successful candidate will have experience in the development of peptides that are fragments of proteins from toxic and pathogenic organisms as synthetic vaccines, an understanding of the structure-function relationships of peptides, the ability to write funded proposals researching biologically active peptides, and a solid publication record in peptide synthesis.

Submit curriculum vitae and a list of publications to: **R. A. Solomon, Human Resources/Sciences, SRI International, 333 Ravenswood Avenue, Menlo Park, CA 94025. An Equal Opportunity Employer.**

University of Pennsylvania, Department of Medicine. The Cardiovascular-Pulmonary Division at the University of Pennsylvania is seeking to fill an academic position to study the immunologic and biochemical functions of lung macrophages. A recent Ph.D. OR M.D. with experience in cellular immunology or biochemistry is preferred. Available 1 July 1987. Salary commensurate with experience. *The University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer M/F.* Applicants should send their curriculum vitae to: **Ronald P. Daniele, M.D., Room 807 East Gates Building, Hospital of The University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104-4283.**

POSTDOCTORAL FELLOW. Position open for postdoctoral fellow with background in biochemistry or immunology. Work involves purification of microbial, tumor, or venom components via immobilized monoclonal antibodies. [see *Methods Enzymol.* 104, 381 (1984)]. Salary \$21,000. For an interview send résumé to: **Dr. Joseph W. Burnett, University of Maryland Hospital, Division of Dermatology, 22 South Greene Street, Baltimore, MD 21201.**

An Equal Opportunity Employer.

POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE POSITION available immediately for a highly motivated scientist with a demonstrated interest in thyroid endocrinology/physiology, for an ongoing research project in the Biocybernetics Laboratory at UCLA. Candidates must have skill and experience with rat microsurgery, HPLC, other chromatographic and related biochemistry procedures, radioisotope techniques, including radioiodination. Send curriculum vitae and names of three references to: **Dr. J. J. DiStefano, III, UCLA, 4731 BH, Los Angeles, CA 90024.**

POSTDOCTORAL MOLECULAR ENDOCRINOLOGIST: Atrial Natriuretic Factor (ANF). Position available for studies on the regulation of ANF gene expression, processing, and secretion by isolated atrial and ventricular myocytes. Projects include: (i) biochemical studies using biosynthetic labeling, quantitative immunoprecipitation, HPLC, and dot blot mRNA analyses to evaluate various effectors of the ANF expression and secretion, and (ii) morphological studies using in situ hybridization and EM immunohistochemistry to characterize the ultrastructural aspects of ANF expression in redifferentiating cultured myocytes. Please submit curriculum vitae and the names and addresses of three references to: **Dr. Christopher C. Glembotski, Department of Biology, San Diego State University, San Diego, CA 92182.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately. Human molecular genetics research utilizing prokaryotic genetic approaches for rapid screening of recombinant DNA libraries to do chromosome walking, and to isolate genes on human chromosome 21 responsible for Down syndrome. Genomic and cDNA libraries are screened via recombination in vivo in *E. coli*. Opportunity for a prokaryotic geneticist to branch out into human genetics. Funded for 3 years. Send curriculum vitae and reference letters to: **Dr. David Kurnit, Howard Hughes Medical Institute, 1150 West Medical Center Drive, MSRB1—Room 3520, Ann Arbor, MI 48109-0650.**

POSTDOCTORAL POSITION IN DEVELOPMENTAL NEUROBIOLOGY

Position available immediately to study the selective stabilization and elimination of synapses during regeneration/development of retinotectal projection in goldfish. Techniques include immunohistochemistry, gel electrophoresis, electrophysiology, and HRP staining of optic terminals. Experience in one or more of the above techniques required. Send curriculum vitae and names of three references to: **Dr. John T. Schmidt, Department of Biological Sciences, SUNY Albany, 1400 Washington Avenue, Albany, NY 12222. SUNY Albany is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS IN YEAST BIOLOGY available immediately at the Public Health Research Institute in New York City to study (i) the structure, function, and molecular evolution of proteins of the arginine biosynthetic pathway and (ii) the molecular structure and transport properties of the plasma membrane H^+ -ATPase. Candidates should be recent Ph.D. graduates in biochemistry, molecular biology, or a related field with strong interest in protein molecular structure and function. Send curriculum vitae and names of references to: **Dr. Carol J. Lusty or Dr. David S. Perlin, Departments of Molecular Genetics and Biochemistry, Public Health Research Institute, 455 First Avenue, New York, NY 10016. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION HARVARD MEDICAL SCHOOL

An immediate opening for a recent Ph.D. in immunology with expertise in hybridoma technology. Candidate will work independently within a multidisciplinary group in the Department of Nuclear Medicine. Research involves the production of monoclonal antibodies and their use as carriers of radionuclides for diagnosis and therapy. Salary \$18,000. Please contact: **Dr. A. I. Kassiss, Shields Warren Radiation Laboratory, 50 Binney Street, Boston, MA 02115. Telephone: 617-732-2183.**

POSTDOCTORAL POSITION: DIRECTED MUTAGENESIS STUDY OF ENZYME ACTIVE SITE RESIDUES. Applications are invited for a postdoctoral position currently available in a team studying the role of enzyme active site residues in binding of substrates and inhibitors, in the catalytic mechanism and in equilibria between conformers. Techniques used to characterize mutant enzyme include stopped-flow fluorimetry and spectrophotometry and FT-NMR. Applicants should have a strong background in enzymology and experience with the relevant techniques is an advantage. Salary: \$20,000 to \$24,000, depending on experience. Position renewable up to 3 years. Send curriculum vitae and three letters of recommendation to: **Dr. Raymond L. Blakley, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available for an organic, medicinal, or biochemistry Ph.D. to study heparin's structure using a microbial heparinase with the goal of developing new anticoagulants. Background in carbohydrate chemistry, electrophoresis/biopolymer sequencing, enzymology, NMR, and HPLC desirable. Ability to work across disciplines essential. Salary \$19,000 plus fringe benefits. Send résumé and two letters of reference to: **Professor Robert J. Linhardt, Division of Medicinal and Natural Products Chemistry, College of Pharmacy, University of Iowa, Iowa City, IA 52242. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.**

Carbohydrate Biochemists Macromolecular Sciences

The Macromolecular Sciences Department of Smith Kline & French Laboratories, located in suburban Philadelphia, Pennsylvania, is seeking two Associate Senior Investigators to conduct research in the structure-function relationships of biological macromolecules; with specific emphasis on determining the role of carbohydrate moieties in biomolecular interactions.

Applicants should have a Ph.D. in Organic/Bio-organic Chemistry or Biochemistry with 1-3 years of relevant postdoctoral experience. Training in carbohydrate biochemistry with experience in the isolation, purification and characterization of sugars and oligosaccharides is required. Experience in chemical and/or enzymatic modification of glycoproteins and other biomacromolecules highly desirable. The successful candidate should have a growing publication record in the area of glycoprotein/carbohydrate biochemistry and excellent verbal and written communication skills.

We offer an excellent compensation and benefits package and an attractive relocation policy as well as a work environment that offers considerable opportunity for personal and professional growth. For confidential consideration, send your C.V. and names of three references to Robert F. Obst, R&D Senior Employment Consultant, R0065, Smith Kline & French Laboratories, Research and Development Division, P. O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

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DEPUTY CHANCELLOR AND DEAN OF AGRICULTURE

TEXAS A&M UNIVERSITY SYSTEM

The Texas A&M University System invites applications and nominations for Deputy Chancellor and Dean of Agriculture, who will be responsible for the teaching, research, extension and public service activities of the College of Agriculture, the Texas Agricultural Experiment Station, the Texas Agricultural Extension Service, the Texas Veterinary Medical Diagnostic Laboratory, and the Texas Forest Service. Reporting to the Chancellor and the Provost, the incumbent has responsibility for a budget of about \$160 million, 4200 employees, 1400 graduate and 4200 undergraduate students, and agency installations throughout Texas.

Qualifications include a PhD in an academic field of agriculture, science, or engineering; demonstrated ability to manage and develop professionals and faculty; and a national and international reputation for leading accomplishments in academic scholarship in his or her field. At least 10 years experience as a researcher/educator and as an academic department head, dean or equivalent is required.

Nominations and applications should be sent to: Dr. Herbert H. Richardson, Chairman, Agriculture Search Advisory Committee; 301 Wisenbaker Engineering Research Center; Texas A&M University System; College Station, Texas 77843-3577. The search will remain open until September 1, 1987 or until the position is filled. Texas A&M University System is an equal opportunity, affirmative action employer.



OPEN POSITION

Due to the imminent retirement of the incumbent we seek our new

HEAD OF THE DIAGNOSTICS DEPARTMENT

His/her main duties are:

- management of the Diagnostics Department with its different branches: donor serology, immunohematology, hemostaseology, immunopathology, diagnostic complementology, viral serology, and hemogenetics
- collaboration with universities both in Switzerland and abroad
- lecturing at national and international symposia
- collaboration in national and international organizations

The requirements are:

- MD with postgraduate training in biology and biochemistry or PhD with postgraduate training in medicinal diagnostics
- recognized successful scientific achievements
- demonstrated ability as a leader of laboratory teams
- good command of the German language

If you are interested in this position we request that you submit a complete application, including an autographed letter, before July 10 1987 to the

**Director
Central Laboratory
Swiss Red Cross Blood Transfusion Service
Wankdorfstrasse 10
3000 Bern 22 / Switzerland**



**Zentrallaboratorium Blutspendedienst SRK
Personalwesen, Wankdorfstrasse 10
3000 Bern 22, Telefon 031/41 22 01**

POSITIONS OPEN

POSTDOCTORAL POSITION available for a recent Ph.D. to study pancreas carcinogenesis. Applicants should have a strong background in molecular biology and/or biochemistry. Salary commensurate with NIH guidelines. Send curriculum vitae, a statement of research, and names and addresses of three references by 15 July 1987 to: **Dr. D. G. Scarpelli, Chairman, Department of Pathology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.**

Northwestern University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION—A postdoctoral position is available funded by an NIH training grant. Projects include regulation of melanoma growth and proliferation by MSH, insulin, and IL-1; promotion of melanogenesis by UV radiation; genetic analyses of differentiated functions in cultured melanoma cells. A curriculum vitae including the names and addresses of two references should be sent to: **Dr. John Pawelek, Department of Dermatology, Yale University School of Medicine, New Haven, CT 06510.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION is available for studies on the distribution and role of ionic channels in demyelinated and remyelinating nerve. Projects include patch clamp recording of ionic currents in axon and glial cell membranes. Optical measurements using potential sensitive dyes are employed to follow conduction in demyelinated axons. Future studies will focus on autoimmune demyelinating disorders of both the peripheral and central nervous systems as well as immunohistochemical localization of ionic channels. The University of Rochester has a large and diverse group of individuals with interests in neuroscience. Funding is available for 2 to 4 years. Send curriculum vitae and names of three references to: **Dr. Peter Shrager, Department of Physiology, Box 642, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Areas of investigation include: (i) studies of protein kinases and cyclic nucleotide phosphodiesterases and cloning of the cDNAs and genes for these proteins; (ii) regulation of processes by cAMP and cGMP in intact heart, liver, and fat cells. Please send curriculum vitae and references to: **Dr. Jackie D. Corbin, Ph.D., Department of Molecular Physiology and Biophysics, Howard Hughes Medical Institute, Vanderbilt University Medical School, Nashville, TN 37232.**

POSTDOCTORAL POSITION available immediately to study the psychobiology of sexual differentiation using a marsupial model system. Experience in reproductive physiology, fetal alcohol studies, steroid radioimmunoassay procedures, and computer analysis of behavior useful. Send curriculum vitae, and names of references to: **Dr. Barbara Fadem, Department of Psychiatry, University of Medicine and Dentistry of New Jersey, New Jersey Medical School, Newark, NJ 07103.** *Equal Opportunity/Affirmative Action Employer.*

NORTHWESTERN UNIVERSITY CIRCADIAN RHYTHMS BIOLOGY

Postdoctoral position is open immediately to examine the role of protein synthesis in the central nervous system of mammals in the generation of circadian rhythms. Experience in neuroanatomy, neurochemistry, neuropharmacology, or related field desirable. Send curriculum vitae and list of three references to: **Drs. Fred W. Turek and Joseph S. Takahashi, Department of Neurobiology and Physiology, Northwestern University, Evanston, IL 60201.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITION, physiology and function of glial cells. Ongoing research is concerned with the membrane properties of astrocytes and retinal Müller cells. Project will utilize voltage-clamp and single-channel recording techniques to examine the distribution of ion channels across the surface of glial cells. Prior experience with these techniques is desirable. Excellent fringe benefits. Send letter, curriculum vitae, and names of references to: **Eric A. Newman, Eye Research Institute, Boston, MA 02114.** *Affirmative Action/Equal Opportunity Employer M/F/V/H.*

POSITIONS OPEN

POSTDOCTORAL POSITION for research on transgenic animals. Work includes microinjection of genes into eggs, embryo transfer, and development of transgenic mouse lines expressing new gene constructions. A background and/or interest in neurobiology preferred. Apply with curriculum vitae to: **Dr. R. L. Brinster, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA 19104.**

POSTDOCTORAL POSITION IN ALZHEIMER'S DISEASE RESEARCH

A 2-year position available immediately to study amyloid peptide biochemistry and amyloid peptide precursor processing by cortical microvessels from Alzheimer's disease brain. Biochemistry experience required. Send curriculum vitae and letters of reference to: **Dr. William M. Pardridge, Department of Medicine, University of California, Los Angeles (UCLA), School of Medicine, Los Angeles, CA 90024.**

POSTDOCTORAL POSITION—MOLECULAR BIOLOGIST to study hormone-regulated gene expression in plants. Position available September 1987. Candidate should have demonstrated proficiency in recombinant DNA techniques. Salary range is \$20,000 to \$25,000 per year. Send curriculum vitae and three letters of reference to: **Professor B. W. Poovaiah, Laboratory of Plant Molecular Biology and Physiology, 155 Johnson Hall, Washington State University, Pullman, WA 99164-6414.** *AA/E/OE.*

POSTDOCTORAL POSITION IN PLANT MOLECULAR BIOLOGY. A position is available immediately for a postdoctoral research associate with experience in genetic engineering techniques to work on the light-dependent expression of the glycine decarboxylase complex in plant mitochondria. The position has a salary of \$24,000 per year plus benefits for 3 years. Send curriculum vitae and names of three references to: **Dr. David J. Oliver, Department of Biochemistry, University of Idaho, Moscow, ID 83843.**

POSTDOCTORAL POSITION—Available 15 August 1987. Cell biology research on extracellular matrix and membrane proteins. Part-time teaching in anatomy labs. Excellent research facilities and ample research time. Starting salary is \$20,800. Send curriculum vitae and names of three references by 25 July 1987, to: **Gary E. Wise, Ph.D., Chairman, Department of Anatomy, Texas College of Osteopathic Medicine, Camp Bowie at Montgomery, Fort Worth, TX 76107-2690.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available for research in molecular neurobiology involving mechanisms of biosynthesis of the catecholamine biosynthetic enzymes. Ph.D. in biochemistry, cell or molecular biology, familiarity with recombinant DNA research, immunochromatographic techniques, cell culture, protein, and/or nucleic acid purification desirable. Competitive salary, attractive setting, and benefits. Send curriculum vitae and three reference names, or call: **Dr. Esther L. Sabban, Department of Biochemistry, New York Medical College, Valhalla, NY 10595. Telephone: 914-993-4069 or 914-993-4055.** *Equal Opportunity Employer.*

POSTDOCTORAL POSITION in red cell metabolism: Columbia University College of Physicians and Surgeons, Division of Pediatric Hematology-Oncology is seeking applicants with a Ph.D. degree to conduct research in red cell enzyme analysis. The position involves responsibility for the isolation and characterization of key glycolytic enzymes, development of monoclonal antibodies, and analysis of the mechanism of enzyme deficiency states. Appointment as postdoctoral research scientist. A background in biochemistry is essential; U.S. citizenship or a permanent visa is required. Applicants should send curriculum vitae, description of research interests, and the names of three references to: **Dr. Sergio Piomelli, Director, Pediatric Hematology-Oncology, Columbia University Medical Center, 630 West 168 Street, New York, NY 10032.** *Columbia is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

A 2-year **POSTDOCTORAL POSITION** is available in the Department of Immunology and Cancer in the Research Institute of the Cleveland Clinic Foundation. Qualified individual would participate in a group effort that has focused on the immunobiology of human renal cell carcinoma and the development of immunotherapeutic approaches to the treatment of this disease. This position involves using molecular biology to characterize tumor-infiltrating lymphocytes and macrophages including the immunomodulatory effects cytokines have on these cells. A background in molecular biology is essential. Send curriculum vitae and names of references to: **James Finke, Ph.D., Mary Jane Thomassen, Ph.D., Department of Immunology and Cancer, Research Institute, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, OH 44106.**

POSTDOCTORAL POSITION—Molecular probing of DNA isolated from aquatic environments and gene exchange via transformation in natural waters. Experience in bacterial genetics essential. Send résumé and references to: **Dr. John Paul, University of South Florida, 140 7th Avenue South, St. Petersburg, FL 33701.**

POSTDOCTORAL POSITION available immediately to study growth factors synthesized by endothelial cells, their mode of action, and regulation of their biosynthesis. A Ph.D. or M.D. degree is required. Experience in protein purification, molecular biology, and/or tissue culture is desirable. Funding is available via an NIH training grant. Send curriculum vitae and arrange for three letters of recommendation to be sent to: **Dr. Larry Witte, Columbia University, Department of Medicine, 630 West 168 Street, New York, NY 10032.**

POSTDOCTORAL POSITION available for a morphologist neuroanatomist, or developmental neurobiologist willing/able to join studies including ultrastructural characterization of axoglial junctions (development and vulnerability), as well as morphological and biochemical studies of cocaine actions on the developing CNS. Funding: 3 years. Apply: **Dr. Richard Wiggins, Department of Neurobiology and Anatomy, University of Texas Medical School Houston, P.O. Box 20708, Houston, TX 77225.** *An Equal Opportunity Employer. Women and minorities are encouraged to apply.*

POSTDOCTORAL POSITION available immediately for neurochemical studies on animal models of neurological disorders and neural transplants. Experience in neurochemistry is needed, knowledge of molecular biology and neuropharmacology also useful. Send statement of research interests, curriculum vitae, and three letters of recommendation to:

**Bernardino Ghetti, M.D.
Indiana University Medical Center
Division of Neuropathology
635 Barnhill Drive, MS A142
Indianapolis, IN 46223**

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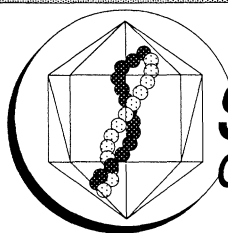
POSTDOCTORAL POSITIONS (two) available immediately in **Dr. John Y. Chiang's** laboratory to study the induction and regulation of cytochrome P-450 in the liver. Experience in enzymology, molecular biology, or hepatocyte culture is required. Send résumé and names of three references to: **Office of Human Resources, Northeastern Ohio Universities College of Medicine, P.O. Box 95, Rootstown, OH 44272.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS

Two postdoctoral positions will become available on or about 1 October 1987 for individuals with a recent Ph.D. interested in participating in a program concerned with the relationship between sterol/lipid biosynthesis and function in crop plants.

Please submit curriculum vitae and three letters of support to: **W. David Nes, Research Chemist, Plant and Fungal Lipid Group, Plant Physiology Research Unit, U.S. Department of Agriculture, Agricultural Research Services (ARS), P.O. Box 5677, Athens, GA 30613; telephone: 404-546-3275.**

ARS is an Equal Opportunity Employer



STRATAGENE CLONING SYSTEMS

RESEARCH PROGRAM DIRECTOR

Stratagene is looking for individuals who can assume the role of research program director. Qualified applicants must have an ongoing research program and have demonstrated the ability to obtain research support in the form of grants or contracts in the areas of genetic disease, genome mapping, or mammalian gene expression, the latter preferably with relevance to expression in transgenic animals. Corporate matching funds are available to supplement research programs supported by grants. In addition, technical support and reagents will be available from Stratagene's molecular biology research products division. Stratagene offers an extremely attractive compensation package to qualified individuals, including a substantial stock option plan.

Stratagene's financial success has allowed it to relocate its research facility to the heart of La Jolla's research community. The Salk Institute, Scripps Clinic, and the University of California, San Diego are among the numerous academic and commercial research centers within one mile of the new Stratagene location. The new site is adjacent to the Torrey Pines State Reserve, offering miles of coastal hiking and jogging trails leading to the Pacific Ocean.

Inquiries will be accepted in strict confidence by:

Candra A. Carter
Administrative Coordinator
Stratagene
11099 North Torrey Pines Road
La Jolla, CA 92037

Sungene *is expanding*

Sungene Technologies Corporation, an established plant biotechnology company in the San Francisco Bay Area, is expanding its staff of Scientists to conduct research in the areas of:

- **Plant Tissue Culture** involving protoplast isolation, transformation, callus induction, plantlet regeneration and in-vitro selection in agronomic crops.
- **Plant Lipid and Protein Biochemistry** using enzymological and analytical approaches as well as collaboration with cell biologist and plant breeding station scientist.
- **Molecular Biology** including nucleic acid manipulation involving the identification, isolation, expression and regulation of genes in plant systems.

Ideal candidates will have an advanced degree, 3+ years experience and an interest in working in an organization with a strong technical and commercial orientation.

Sungene Technologies offers excellent salary, benefits, relocation and stock option plans. Please send resume with references to:

John Kelley
Sungene Technologies Corporation
3330 Hillview Avenue
Palo Alto, CA 94304

Molecular Biology

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

Excellent opportunities exist for innovative interdisciplinary research in our new and superbly equipped Research and Development Center in suburban Philadelphia near Valley Forge, Pennsylvania.

The Department of Molecular Genetics is seeking outstanding scientists with B.S. or M.S. degrees in Microbiology, Biochemistry, Molecular Biology or equivalent and expertise in the following areas: cDNA cloning and sequencing, gene regulation and expression in bacteria, yeast or mammalian cells.

We offer an excellent compensation, benefits and relocation package as well as opportunities for personal and professional growth. Publication of research results is encouraged and supported. For confidential review, please forward your C.V. and names of three references to Robert F. Obst, R&D Senior Employment Consultant, R0071, Smith Kline & French Laboratories, Research and Development Division, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

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ImmunoTherapeutics, Inc., is a Biotechnology Company involved in the development of human immunopharmaceuticals.

Immediate positions are open for individual(s) at the Master's or Ph.D. level, preferably with experience, in the following areas:

CHEMIST/BIOCHEMIST — major responsibilities include preparation and purification of bacterial lipopolysaccharides and natural occurring polysaccharides using column chromatography and HPLC.

SYNTHETIC CHEMIST/BIOCHEMIST — major responsibilities are synthesis of polysaccharide-protein and protein-protein complexes.

LIPOSOME CHEMIST — major responsibilities include preparation, formulation, and evaluation of liposomes as drug carriers.

ImmunoTherapeutics, Inc., intends to hire one or more individuals to fill these needs depending on the background and experience of applicants. Compensation commensurate with experience. Reply in confidence to ITI, 3505 Riverview Circle, Moorhead, MN 56560, (701) 237-5682.

POSITIONS OPEN

POSTDOCTORAL POSITIONS available immediately and later for the study of the biochemistry and cell biology of actin-myosin and microtubule-kinesin motile systems in non-muscle cells. Appointment would be as a Staff Fellow or Senior Staff Fellow (United States citizen), initially for 2 years and renewable annually for a maximum of 5 years. The starting salary will be \$20,000 or higher, depending on experience. Candidates interested in protein structure-function, cell biochemistry, or cell biology should contact: **Dr. Edward D. Korn, Laboratory of Cell Biology, National Heart, Lung, and Blood Institute, National Institutes of Health, 9000 Rockville Pike, Building 3, Room B1-22, Bethesda, MD 20892.**

An Equal Opportunity Employer.

POSTDOCTORAL POSITIONS DROSOPHILA DEVELOPMENT HOWARD HUGHES MEDICAL INSTITUTE

The *Drosophila* Group at the Howard Hughes Medical Institute at the University of Utah in Salt Lake City currently has several postdoctoral positions available. Experience with genetics and/or molecular biology is preferred. Prior experience with *Drosophila* is not required. Our group consists of three highly interactive labs whose combined research interests cover most of *Drosophila* development.

Tulle Hazelrigg: Genomic position effects which confer novel position-dependent pattern of gene regulation. Trans-acting regulators of dosage compensation. Maternal-effect genes which are necessary for normal pattern formation in the early embryo.

Shigeru Sakonju: Genetic and molecular analysis of the homeotic genes in the bithorax complex. Functions of the protein encoded by the homeotic genes.

Carl Thummel: Determination of the structure and function of a set of regulatory genes induced by the steroid hormone ecdysone with the goal of determining what role these genes may play in initiating metamorphosis.

Please send curriculum vitae and list of three references to: **Howard Hughes Medical Institute, Box F, 701 Wintrobe Building, University of Utah Medical Center, Salt Lake City, UT 84132.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE. Basic science-oriented, NIH-funded postdoctoral program in hypertension research. Participate in studies of humoral factor(s) affecting cell ion transport and growth [see *AJP* 251, H984 (1986)]. Applicant should have Ph.D. in biochemistry, pharmacology, or cell biology with at least 1 year of postdoctoral training. Experience with cell culture and chromatography, U.S. citizenship or permanent visa necessary. Salary NIH level or higher, depending on experience. Opportunity for continued employment after postdoctoral program of 1 to 2 years. Send curriculum vitae and references to: **H. W. Overbeck, M.D., Ph.D., Departments of Medicine and Physiology, University of Alabama at Birmingham, Birmingham, AL 35294. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL AND RESEARCH ASSOCIATES. Four positions available immediately. Two are to work on the molecular biology of the human parasite *Schistosoma mansoni* on the roles of phenol oxidase and tyrosine-rich proteins in the formation of the eggshell. The other two are to work on the structure of spider silk proteins or the proenkephalin protease. Two positions require a Ph.D. in an appropriate area and the others a B.S. or M.S. Experience with recombinant DNA techniques, analysis of protein secondary structure, or protein purification would be useful. Applications, including three reference letters, should be sent to: **Dr. J. Cordingley, for the first two, or Dr. R. V. Lewis, for the latter two, Department of Molecular Biology, University of Wyoming, Box 3944 University Station, Laramie, WY 82071. Phone inquiries to: 307-766-2150 or 3300. The University of Wyoming is an Equal Employment Opportunity/Affirmative Action Institution.**

POSTDOCTORAL RESEARCH position for Ph.D. in biochemistry or related field for project involving purification of human tumor-associated antigens. Experience with tissue culture, protein purification techniques desirable. Reply with curriculum vitae to: **Elliot Alpert, M.D., Department of Medicine/GI Section, Baylor College of Medicine, Houston, TX 77030.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE— Position available for an electrophysiologist to characterize the properties of central axons which have regenerated along peripheral nerve implants. Preference given to applicants experienced in spinal cord physiology and/or tract-tracing, and histological techniques. Please send curriculum vitae with names of three references to: **Dr. Julia K. Terzis, Microsurgical Research Center, Eastern Virginia Medical School, 700 Olney Road, Norfolk, VA 23507.**

POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS

(i) Molecular and biochemical basis of progression of the transformed phenotype in virally transformed rodent cells and human melanoma cells. (ii) Mechanism by which chemical carcinogens enhance virally mediated cell transformation. (iii) Molecular basis of differentiation in normal and tumor cells. Experience in molecular biology and recombinant DNA technology. Send curriculum vitae and have three letters of reference sent to: **Dr. P. B. Fisher, Cancer Center/Institute of Cancer Research, Columbia University, College of Physicians and Surgeons, New York, NY 10032. Equal Opportunity Employer/Affirmative Action.**

POSTDOCTORAL RESEARCH POSITION— Available immediately to study regulatory aspects of muscle contraction. The project will utilize hybrid myosin molecules so as to allow incorporation of specifically modified peptides. Experimental techniques to be employed include fluorescence resonance energy transfer, cross-linking, and immunoblotting. The position, funded by the American Heart Association for 2 years initially, has a starting salary of \$18,000. Applicant, who should have some expertise in biochemistry and/or cell biology, should send curriculum vitae including references to: **Doctor Peter Chantler, Department of Anatomy, Medical College of Pennsylvania, EPPI Division, 3200 Henry Avenue, Philadelphia, PA 19129. An Equal Opportunity/Affirmative Action Employer M/F/H/V.**

Director General International Center for Agricultural Research In The Dry Areas

The International Center for Agricultural Research in the Dry Areas (ICARDA), with headquarters at Aleppo, Syria, is one of the 13 international agricultural research organizations which are supported by the Consultative Group on International Agricultural Research (CGIAR), an association of official and private donor agencies, co-sponsored by FAO, UNDP and the World Bank. ICARDA serves as an international center for research to improve barley, faba bean and lentil and as a regional center for research in wheat, chickpea (with ICRISAT), pasture and forage crops and livestock husbandry.

The Board of Trustees are seeking to identify a suitable candidate for the Director General post which will be vacant towards the end of this year. The ideal candidate would probably:

- have a proven record in research administration and management, preferably in an institution containing scientists of different nationalities and disciplines
- have significant experience in agricultural research in developing countries
- be familiar with the CGIAR system
- be prepared to travel extensively.

Knowledge of Arabic would be an advantage.

Those interested in being considered for this post should apply enclosing an up-to-date curriculum vitae, in cover marked *Personal and Confidential*, by not later than July 31st, 1987 to:



The Chairman DG Search Committee
c/o Deputy Director General,
International Cooperation
ICARDA
P.O. Box 5466
Aleppo
Syria

If required, additional information will be provided by the Senior Administrator, ICARDA, P.O. Box 5466, Aleppo, Syria.

Postdoctoral Scientist Enzymologist

The Medicinal Chemistry Department of Smith Kline & French Laboratories has an immediate opening for a Postdoctoral Scientist interested in investigating the mechanisms of enzyme action and inhibition.

The successful candidate will have:

- Ph.D. in Bio-organic Chemistry, Biochemistry, or the equivalent.
- experience in enzyme purification and characterization.
- experience in the development of specific enzyme assays.
- experience in the kinetic analysis of enzymic reactions using steady-state techniques.
- working knowledge of biological reaction mechanisms.

Located in suburban Philadelphia, near Valley Forge, PA, our new and superbly equipped Research and Development Center offers excellent opportunities for innovative interdisciplinary research. Publication of research findings in leading journals and interactions with the scientific community are encouraged. Our postdoctoral positions are normally of two years duration.

We offer excellent compensation and benefits, an attractive relocation policy, and an opportunity for personal and professional growth. For confidential consideration, send your C.V. and names of three references to Robert F. Obst, R&D Senior Employment Consultant, R0069, Smith Kline & French Laboratories, P. O. Box 1539, King of Prussia, PA 19406-0939. We are an Equal Opportunity Employer, M/F/H/V.

SK&F
A SmithKline Beckman Company

**National Institute of Mental Health Workshop
STRATEGIES FOR THE EVALUATION
OF ANTI-HIV EFFECTS OF
PEPTIDE DRUGS IN THE IMMUNE
AND CENTRAL NERVOUS SYSTEMS**

CHAIRMEN

Frederick K. Goodwin, M.D.
Scientific Director, DIRP, NIMH

Jesse Roth, M.D.
Scientific Director, NIDDK

**TUESDAY, JUNE 30, 1987
9:00 a.m.-5:00 p.m.**

NATIONAL INSTITUTES OF HEALTH
Building 31, Conference Room #10
9000 Rockville Pike, Bethesda, MD 20892

The program will consider variables in detecting
Peptide T effects, virus quantitation in other assays,
and interactions at the CD4 receptor.

Further information may be obtained by
contacting the office of
Dr. Peter Bridge, NIMH, Bethesda, Maryland
at (301) 496-7789.

**POSTDOCTORAL
RESEARCH
SCIENTIST**

Berlex Laboratories, Inc., a rapidly growing pharmaceutical company located in Northern New Jersey and a wholly-owned subsidiary of Schering AG of Berlin, West Germany*, has a unique professional opportunity for a qualified scientist to initiate novel research in a multidisciplinary research environment.

The successful candidate will work with biologists and chemists on new approaches to treat cardiovascular diseases. Applicants for the position should have a Ph.D. in an area related to muscle/endothelial cell biology. A background in basic physical sciences would be desirable. This will be a two year appointment.

Berlex offers a competitive salary, a comprehensive benefits package and an excellent environment for basic science. Prospective candidates are invited to send a curriculum vitae and a Statement of Research proposal, by July 10, 1987, to: Lila Bernstein, Manager, Human Resources R&D, Berlex Laboratories, Inc., 110 East Hanover Avenue, Cedar Knolls, NJ 07927. Equal

BERLEX

Opportunity Employer M/W/H.

Laboratories Inc.

*(Schering AG is not affiliated with Schering-Plough of Kenilworth, N.J.)

Electrophysiologists

The Upjohn Company, located in Kalamazoo, Michigan, has several research associate positions open in the areas of electrophysiology and neuropharmacology. Successful candidates will have a BS degree in a biomedical science and 2 or more years of post-baccalaureate laboratory bench experience with electrophysiological techniques or have an MS degree. Individuals are needed with expertise in one or more of the following areas:

- (1) Intracellular/patch recording, including voltage and current clamping of single cells or isolated membrane; fabrication and use of ion-selective micro-electrodes, suction and patch pipettes to monitor ion conductance through ion channels; techniques for isolation of single heart and smooth muscle cells;
- (2) Extracellular unit recording to conduct studies in the area of central nervous system control of blood pressure;
- (3) Neuromuscular physiology techniques, including muscle tension recording, use of suction electrodes and field stimulation, and analysis of volume-conducted potentials.

Experience with automated data acquisition and analysis is desirable and selected individuals will be involved with basic research, drug development and have an opportunity to publish.

We are located in a medium-sized Southwestern Michigan community with access to a rich mix of cultural, educational and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for career growth, a competitive salary commensurate with experience, a comprehensive benefits program and relocation assistance. For confidential consideration, please refer to Ad number 1790-A and send a curriculum vitae to M. William Rex, Employment Representative, The Upjohn Company, Kalamazoo, Michigan 49001

Upjohn

**A second century
of caring.**

An Equal Opportunity Employer M/F

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATES

Interdisciplinary program in endocrinology supported by NIH Training Grant offers research in Pituitary-Ovarian Function (**R. L. Butcher, Ph.D.**, Ob/Gyn); Gonadotropins and Follicular Development (**R. A. Dailey, Ph.D.**, Animal Science); Reproductive Neuroendocrinology (**R. L. Goodman, Ph.D.**, Physiology); Thyroid/Adrenal Neuroendocrinology (**G. A. Hedge, Ph.D.**, Physiology); Utero/Ovarian Relationships (**E. K. Inskeep, Ph.D.**, Animal Science); Gene Expression/Recombinant DNA (**R. F. Kletzein, Ph.D.**, Biochemistry); Androgen/Estrogen Action (**M. G. Mawhinney, Ph.D.**, Pharmacology and Toxicology); and Hormonal Regulation of Gene Expression/Recombinant DNA (**Jeanine Strobl, Ph.D.**, Pharmacology and Toxicology). Positions filled as available depending on candidate qualifications and needs of laboratories involved. *Women and minorities are encouraged to apply.* Application information and more detailed descriptions of these research programs are available on request from the program director:

Dr. George A. Hedge
E. J. Van Lier
Professor and Chairman
Department of Physiology
West Virginia University Medical Center
Morgantown, WV 26506-6302
Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL SCIENTIST/ RESEARCH ASSOCIATE/ RESEARCH SCIENTIST

Studies designed to determine the molecular basis of human prostate cancer development and metastasis. Experimental approach will involve DNA transfection, cDNA cloning, DNA sequencing and the functional analysis of tumor- and metastasis-inducing genes. Experience in molecular biology and recombinant DNA technology. Send curriculum vitae and have three letters of reference sent to: **Dr. P. B. Fisher, Department of Urology and Cancer Center/Institute of Cancer Research, Columbia University, College of Physicians and Surgeons, New York, NY 10032.** *Equal Opportunity Employer/Affirmative Action.*

UNIVERSITY OF SOUTHAMPTON

Applications are invited for a research assistant (normally a science graduate) in medicine at the University of Southampton, commencing 1 October 1987. The person appointed will join a postdoctoral lecturer in the development of molecular techniques within a group researching the autoimmune basis of endocrine disease. A knowledge of immunology is helpful, but experience in the techniques of molecular biology not essential. The post is for 5 years in the first instance renewable annually.

The salary will be in the range £8,185 to £14,825 per annum according to qualifications and experience.

Enquiries to: **Dr. T. J. Wilkin, Professorial Medical Unit, Southampton General Hospital, Tremona Road, Southampton (telephone 0703 777222, ext. 4291),** to whom applications (two copies) giving a brief curriculum vitae and the names, addresses, and telephone numbers of three referees should be sent before 31 July 1987. Please quote Ref. No. AJS/222.

RESEARCH ASSOCIATE position available 1 August 1987 for Ph.D. or equivalent with minimum of 5 years of experience in traditional Chinese medicine plus strong background in biochemistry/pharmacology (emphasis on antihypertensive drugs and medicinal herbs). Principal responsibilities will be to design, conduct, and prepare reports on neuropharmacological-behavioral type experiments, including techniques such as HPLC and radioimmunoassay. Salary \$21,000 plus benefits. Send résumé and names of three referees to: **N. Korstanje, Employment, Room 262, Stevenson-Lawson Building, University of Western Ontario, London, Ontario, Canada, N6A 5B8.** *In accordance with Canadian Immigration requirements this advertisement is directed to Canadian citizens and permanent residents of Canada. An Equal Opportunity Employer.*

POSITIONS OPEN

PROTEIN NMR SPECTROSCOPIST. University of Maryland—The Center for Advanced Research in Biotechnology (CARB) and the Department of Chemistry and Biochemistry, University of Maryland, College Park, are jointly searching for an NMR spectroscopist with demonstrated abilities in the determination of the structures of proteins by high field NMR spectroscopy. The position is available at any academic level.

The successful candidate will hold a tenured or tenure-track position at CARB, one of the Maryland Biotechnology Institutes whose mission is protein engineering, with a half-time professional appointment in the Department of Chemistry and Biochemistry on the College Park Campus. CARB will be housed in a 40,000-square-foot research facility currently under construction and scheduled to be completed in March 1988 in Rockville, Maryland... the heart of Maryland's biotechnology community; CARB's temporary headquarters are at the National Bureau of Standards in Gaithersburg, Maryland.

The current staff include specialists in the areas of x-ray crystallography and protein modeling; the faculty in the Department of Chemistry and Biochemistry at the College Park campus include several enzymologists. CARB will be equipped with modern high field NMR spectrometers necessary for determination of protein structures (500 and/or 600 MHz) as well as x-ray diffraction and computational facilities.

Interested candidates should send curriculum vitae, statement of research interests and accomplishments, and three letters of recommendation by 1 September 1987 to: **CARB/UMCP NMR Research Committee, Department of Chemistry and Biochemistry, University of Maryland, College Park, MD 20742.** *The University of Maryland is an Equal Opportunity/Affirmative Action Employer.*

PSYCHOLOGY OR PHYSIOLOGY faculty research position for Ph.D. available in the Behavioral Medicine Laboratory at Lafayette Clinic, Wayne State University School of Medicine, Department of Psychiatry. No teaching responsibilities. Salary and rank commensurate with qualifications. Salary highly competitive with excellent benefits. Send curriculum vitae, publications, and three letters of reference to: **Robert Freedman, Ph.D., Director, Behavioral Medicine, Lafayette Clinic, 951 East Lafayette, Detroit, MI 48207.**

RESEARCH ASSOCIATE—NEUROBIOLOGY/NEUROCHEMISTRY. Position in established laboratory to study neurobiology of peripheral and central auditory and vestibular processes. Experience in receptor binding, immunocytochemistry, recombinant DNA techniques, or peptide/protein microchemistry required. Starting salary: \$22,000 plus fringe benefits, for 2 to 3 years, renewed annually. Send curriculum vitae, representative publications, and names of three references to:

Dr. Dennis Drescher
Laboratory of Bio-otology
Wayne State University School of Medicine
540 East Canfield Avenue, Detroit, MI 48201

RESEARCH ASSOCIATE/PHARMACOLOGY—BIOCHEMISTRY POSITIONS AVAILABLE immediately for investigation of various enzymes encapsulated into carrier erythrocytes for drug antagonism studies. Knowledge of enzymology and/or pharmacokinetics preferred. Send curriculum vitae and names of three references to: **Dr. J. L. Way, Department of Pharmacology, Texas A&M University, Medical Sciences Building, College Station, TX 77843.** *Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE. Neurophysiologist (M.D. or Ph.D.) to join a multidisciplinary group studying the functional organization of the primate thalamus in normal movement and its role in the pathophysiology of movement disorders. Candidate should have experience with techniques of chronic extracellular recording in behaving primates. Send curriculum vitae, statement of research interests, and three letters of recommendation to: **Mahlon R. DeLong, Professor of Neurology and Neuroscience, Department of Neurology, Johns Hopkins School of Medicine, Meyer 5-185, 600 North Wolfe Street, Baltimore, MD 21205.**

POSITIONS OPEN

RESEARCH ASSOCIATE

Available immediately for 2 or 3 years to conduct research on genetic engineering of soya proteins. Experience in recombinant DNA techniques and a strong background in protein chemistry are essential. Salary: \$18,000 to 19,000 per year. Send résumé and names of three references to: **Dr. D. Srinivasan, Department of Food Science, University of Wisconsin—Madison, 1605 Linden Drive, Madison, WI 53706.** *An Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSOCIATE, Human Motor Physiology/Psychophysiology. Experimental psychologist (Ph.D.) sought to participate in design and implementation of studies of motor performance in normal subjects and in patients with various types of movement disorders. Send curriculum vitae, statement of research goals, and three letters of recommendation to: **Mahlon R. DeLong, Professor of Neurology and Neuroscience, Department of Neurology, Johns Hopkins School of Medicine, Meyer 5-185, 600 North Wolfe Street, Baltimore, MD 21205.**

RESEARCH ASSOCIATE POSITION available immediately for a crystallographer interested in the determination of linear polymer structures. Research involves the quantitative use of electron diffraction intensity data from microcrystalline preparations for crystal structure analysis and affords the opportunity to learn unusual aspects of diffraction physics not frequently encountered in x-ray crystallography. Familiarity with x-ray crystal structure analysis and computing is most desirable and some knowledge of electron microscope operation would be useful. Initial appointment is for 1 year with extension negotiable. Salary is about \$20,000 per annum. Applicant should send curriculum vitae and three references to: **Dr. D. L. Dorset, Electron Diffraction Department, Medical Foundation of Buffalo, Inc., 73 High Street, Buffalo, NY 14203.**

RESEARCH SCIENTIST to propose original, graduate-level projects and conduct research in acid/alkaline sizing of paper and in repulping technology and develop chemical sizing and repulping programs/systems for actual Pulp and Paper Mills, develop chemical treatment programs for Pulp and Paper Mills to include specification of cationic and anionic polymers, strength and sizing aids, emulsifiers, deposit control agents, and surfactants and utilize chemical formulation design to develop and optimize new products (sizing aids, emulsifiers, repulping aids) utilizing high degree of statistical analysis to include experimental factorial design and multilinear regression analysis. Require M.S. in paper science and engineering with concentration in alkaline sizing of paper and demonstrated ability and proven record of performance in stated duties by way of academic research or publication. Salary: \$34,700 per year. Thirty-seven hour week; 8 a.m. to 4:30 p.m. Submit résumés to: **Job Service of Florida, 1307 North Monroe Street, Tallahassee, FL 32303.** Job #FL-5700696.

RETROVIROLOGIST— RESEARCH SCIENTIST

The Regional Primate Research Center (RPRC) at the University of Washington seeks a virologist with Ph.D. and experience in retrovirology to join an active, expanding group studying simian retroviruses, SAIDS-D Washington (a type D retrovirus), and SIV (Simian Immunodeficiency Virus), a lentivirus closely related to human AIDS viruses (HIV). We seek an individual interested in the pathogenesis of AIDS-like diseases in nonhuman primates as animal models for HIV infection in man. Should have, or be prepared to develop, skills in virus isolation, cultivation, quantitation, and characterization; experience in molecular biology desirable but not required. Collaborative efforts with HIV research groups at the University of Washington and other institutions in the Seattle area have been instituted. Ongoing studies include testing of anti-viral drugs and recombinant vaccines against HIV and the Simian AIDS viruses. Future efforts will focus on gene expression of the simian retroviruses. Starting salary: \$26,148 to \$30,336.

Submit curriculum vitae and three references by 24 July 1987 to: **Dr. Michael G. Katze, Core Staff Scientist, Regional Primate Research Center SJ-50, University of Washington, Seattle, WA 98195.** Telephone: 206-543-8837.

Affirmative Action/Equal Opportunity Employer.



**FACULTY POSITION IN PHARMACEUTICS
CATHOLIC UNIVERSITY OF LOUVAIN
(BELGIUM)**

The Faculty of Medicine at the Catholic University of Louvain is seeking applicants for a full-professor level position in pharmaceuticals (galenic pharmacy).

Required qualifications:

- Doctor in pharmacy (Pharm.D), Ph.D. or equivalent qualification, and/or "Agrégation" (in French) or "Habilitation" (in German), with post-doctoral experience in the field of formulation and pharmaceutical technology;
 - ability to carry out autonomous research in these fields.
- The knowledge of French language will be an asset.

Functions:

- develop and carry out research in the fields of product formulation, novel drug delivery systems, properties of matter related to dosage form design,
- train and supervise graduate students (doctorate, specialisation) in the above fields,
- take a part of teaching in the undergraduate program of pharmacy.

Salary will be established upon qualification and experience according to the scale in force in the Belgian universities.

The position is available from 1st October 1987.

Applicants should submit curriculum vitae with a list of their publications, a copy of their diplomas and the names of two references.

Applications or inquiries should be directed to:

Professor P. MACQ
Recteur de l'Université Catholique
de Louvain
1, Place de l'Université
1348 LOUVAIN-LA-NEUVE
Belgium

Deadlines: 10 July 1987

**POSITION DESCRIPTION
DIRECTOR**

**Center for Compound Semiconductor Microelectronics
College of Engineering
University of Illinois at Urbana-Champaign**

The Center for Compound Semiconductor Microelectronics (CCSM) is an interdisciplinary program for research in the area of compound semiconductor optical and electronic theory, materials, devices, transmission media, and systems. Its members hold appointments in the Departments of Electrical and Computer Engineering, Computer Science, Materials Science and Engineering, Chemical Engineering, and Physics. Current research, which also provides graduate student thesis research opportunities, undergraduate education and research opportunities, and opportunities for interaction with industrial researchers, is funded in part by a grant from the National Science Foundation under the Engineering Research Center program. The Center maintains sophisticated materials and device processing facilities and will be housed in a new research laboratory presently under construction. The compound semiconductor microelectronics program currently has over 30 associated faculty and more than 100 graduate assistants. The Director is the chief executive officer and reports directly to the Dean of the College of Engineering.

The Search Committee is seeking candidates with evidence of superior administrative abilities and a distinguished record of scholarly accomplishments. The Director should be qualified to be appointed to the rank of Professor, with full tenure, in an appropriate department. Salary is negotiable. Suggested starting date is August 21, 1987.

In order to assure full consideration, nominations or applications, together with complete current resume material, should be received by July 31, 1987. Names, addresses, and telephone numbers of at least three references should be included.

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

Professor James J. Coleman, Chair
Center for Compound Semiconductor Microelectronics
1406 West Green Street
Urbana, IL 61801
(217) 333-2555



**(ICRISAT)
International Crops Research
Institute for the Semi-Arid Tropics
*needs a***

**Pulse Entomologist
at Hyderabad, India**

The Legumes Program of ICRISAT conducts research on three legumes of major importance in the semi-arid tropics: pigeonpea, chickpea, and groundnuts. The entomologist will work in cooperation with other ICRISAT scientists to improve host plant resistance to insect pests and to investigate other strategies for the reduction of insect-caused losses in pigeonpea and chickpea. The work will involve international responsibility for pest management research on these crops and the selected candidate will be required to travel considerably and liaise with scientists in regional and national programs.

Essential qualifications : Doctorate in entomology. Significant research on entomological problems of economic crops as evidenced by published reports and scientific papers. Enthusiasm, dedication and ability to conduct productive pest management research. Fluency in spoken and written English.

Desirable qualifications : Experience in screening plants for resistance to insect pests and/or productive pest management research in a tropical country. Expertise in biometrics and computer utilization.

Salary at principal staff level, according to qualifications and experience.

The appointee will be based at the ICRISAT Center, Patancheru, 30 Km NW of Hyderabad, India. Hyderabad is accessible by air to international airports and has good living conditions, recreational and medical facilities. Educational facilities exist for children to the age of twelve.

Send resumé, including present salary level, and names of three references to :

**Director General
ICRISAT Patancheru P.O.
A.P. 502 324, India**

**within 60 days from the date of
advertisement.**

POSITIONS OPEN

Helen Hayes Hospital

RESEARCH SCIENTIST/ BIOMEDICAL ENGINEER

Helen Hayes Hospital invites applicants for the position of research scientist/biomedical engineer (N.Y.S. Grade 22). Minimum qualification includes a Master's degree in biomedical engineering with 2 years of research experience in the area of biomechanics. Preferred qualifications include 2 years of experience in Kinematics as applied to Gait Analysis and Software development for real time kinematic data analysis. Major responsibilities will be development of analytical software in support of research programs relating to gait and upper extremity analysis, assist in the design and implementation of algorithms for finite element analysis. The salary is \$33,115 per year. Send résumés to: **New York State Job Service, 55 Church Street, White Plains, NY 10601.**

RESEARCHER/WRITERS. The World Resources Report has two full-time, 6- to 8-month positions on this annual book on global resource issues. Must have a strong science and policy background as well as an awareness of international environment and development issues. Must demonstrate ability to handle complex research and writing assignments. \$2750 per month. Send résumé and writing samples to: **J. Alan Brewster, World Resources Institute, 1750 New York Avenue, Washington, DC 20006.**

SCIENTIFIC DIRECTOR

The Institute for Medical Research, an independent institute in San Jose, California, invites applications for the position of Scientific Director. The candidate must have an M.D. or Ph.D., a record of excellence in research, and leadership ability. We seek an enthusiastic individual with a sustained, independent research program. Responsibilities include providing guidance on ongoing research in broad areas of neuroscience, immunology, and infectious disease. Planning and implementation of new investigative activities is expected. Applicants should send their curriculum vitae in care of: **Chairperson, Search Committee, IMR, 2260 Clove Drive, San Jose, CA 95128. IMR is an Equal Opportunity Employer.**

SENIOR SCIENCE ADVISORS—U.S. Environmental Protection Agency is seeking candidates for the position of Senior Science Advisor in Regional Offices. Primary duties include overseeing preparation and review of risk assessments for site-specific exposure situations and the interaction with senior regional managers on policy implication of such assessments. These activities will be managed through a small centralized staff providing services to various program operations.

The positions are interdisciplinary in nature. While a strong scientific background and capacity to assess quantitative risk assessment techniques is a necessity, practical experience in successfully operating in interface between science and regulatory policies is the critical qualification sought. Effective communication techniques are essential. Positions require proven ability to explain strengths and weaknesses of science issues to both managers and lay public. Additional qualifications include capacity to lead training programs for technical staff. Since effort will be operated as central staff function, ability to successfully interact with technical staffs is important.

Candidates will have graduate training in toxicology, public health, or related biological or scientific discipline. A Ph.D. would be highly desirable. Specific experience in conducting quantitative risk assessments of environmental exposure situations in a government regulatory climate would also be highly desirable. Potential opportunities exist in the following locations: New York, Chicago, and Washington, D.C. Interested candidates should send résumés to: **Victor J. Kimm, Deputy Assistant Administrator, Office of Pesticides and Toxic Substances (TS-788), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460. The U.S. Environmental Protection Agency is an Equal Opportunity Employer. U.S. citizenship is required for positions in the competitive service.**

POSITIONS OPEN

SCIENTIFIC PROGRAMMING

Fein-Marquart Associates is a small, established, computer software research and development firm specializing in scientific programming and database systems, especially chemical information systems and laboratory information management systems. Projects vary in size and use a variety of sophisticated computer environments—from microcomputers to large mainframes.

As part of its current expansion, FMA seeks **EXPERIENCED PROGRAMMERS** with scientific degree(s) and Fortran experience.

Please send résumé to: **Fein-Marquart Associates, Inc., 7215 York Road, Baltimore, MD 21212. Telephone: 301-821-5980.**

TUMOR BIOLOGIST: Faculty position in the Department of Otolaryngology—Head and Neck Surgery with a joint appointment in an appropriate basic science department. We are seeking an individual with an interest in either cell differentiation, neoplasia, solid tumor biology, or tumor immunology. Send curriculum vitae, bibliography, statement of research experience and interests, and three letters of recommendation to: **Thomas D. Pollard, M.D., Chairman, Tumor Biology Search Committee, Department of Cell Biology and Anatomy, The Johns Hopkins School of Medicine, 113 Wood Basic Science Building, Baltimore, MD 21205.**

The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer.

VISITING POSITION OPENING DEPARTMENT OF BIOLOGY

Visiting Professor, biology 1987 to 1988. Possible renewal. Ph.D. required. Teach introduction to ecology and behavior, two upper division courses, and two non-major courses. Research involving students encouraged. Send current curriculum vitae and three letters of recommendation to: **James Malcolm, Academic Affairs, University of Redlands, 1200 East Colton Avenue, P.O. Box 3080, Redlands, CA 92373-9986. Must be received by 5:00 p.m. on 15 July 1987. An Equal Opportunity/Affirmative Action Employer.**

LECTURESHIP

LECTURESHIP IN PHYSIOLOGY. A nontenure-track teaching position (minimum one-half time) is available in the Department of Comparative Biosciences. Responsibilities include lecturing in veterinary gastrointestinal physiology and laboratory instruction in physiology and anatomy. Opportunities for participation in research are available. The Ph.D. and/or D.V.M. and teaching experience are required. Send curriculum vitae and three letters of reference to: **Dr. Gerald E. Bisgard, Department of Comparative Biosciences, School of Veterinary Medicine, 2015 Linden Drive West, Madison, WI 53706; telephone: 608-263-5878. Deadline 31 July 1987. Affirmative Action/Equal Opportunity Employer.**

UNIVERSITY OF SOUTHAMPTON LILLY LECTURESHIP

Applications are invited for the Lilly Lectureship in Molecular Endocrinology tenable at the University of Southampton, commencing 1 October 1987. The appointment will be made on a 5-year continuously rolling contract. The funding body is also providing equipment, a research assistant, and secretarial services. The lecturer should ideally have postdoctoral experience in molecular immunology and will carry out research into the autoimmune basis of endocrine disease, particularly diabetes. He/she will be expected to teach and supervise undergraduates and Ph.D. students.

The salary is negotiable on the University Lecturers scale: £8,735 to £18,210 per annum.

Enquiries to: **Dr. T. J. Wilkin (0703 777222, ext. 4291)** and further particulars may be obtained from **Mr. A. J. Small, Staffing Secretary, The University, Southampton, SO9 5NH**, to whom applications (seven copies from applicants in the U.K. and one from others) giving a brief curriculum vitae and the names, addresses, and telephone numbers of three referees should be sent before 31 July 1987. Please quote Ref. No. **AJS/221.**

TRAINING PROGRAM

TRAINING PROGRAMS

POSTDOCTORAL TRAINING OPPORTUNITIES are regularly available with the College of Biological Sciences at the University of Minnesota. Inquiries may be directed to the Departments of biochemistry, botany, ecology and behavioral biology, and genetics and cell biology, as well as the following research programs: Bell Museum of Natural History, Biological Process Technology Institute, Cedar Creek Natural History Area, Gray Freshwater Biological Institute, the Lake Itasca Forestry and Biological Station, and the Plant Molecular Genetics Institute.

For information about possible openings in these programs, please write to (include curriculum vitae and specify departments of interest): **University of Minnesota, College of Biological Sciences, 123 Snyder Hall, 1475 Gortner Avenue, St. Paul, MN 55108. The University of Minnesota is an Equal Opportunity Employer and Employer and specifically invites and encourages applications from women and minorities.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS LIFE SCIENCES RESEARCH FOUNDATION (LSRF)

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

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

Timetable: Application deadline is 1 October 1987, for award as early as summer 1988. Awards will be announced by March 1988.

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

POSTDOCTORAL FELLOWSHIP IN ELECTRON MICROSCOPY. Two-year position available July 1987 for morphological and ultrastructural research of biomaterials and tissues with scanning and transmission electron microscopy, and x-ray analysis. Experience with 3-D stereology desirable. Applicant will participate in active multidisciplinary program devoted to research and education in arthritis. Send letter of intent and curriculum vitae to: **Thomas A. Gruen, M.S., Director of Education, Harrington Arthritis Research Center, Phoenix, AZ 85006.**

Johns Hopkins Biomedical Cyclotron Facility has two openings: **A POSTDOCTORAL TRAINING FELLOWSHIP** for a recent Ph.D. in organic or medicinal chemistry to develop and prepare new radiotracers for use in positron emission tomography; and a radiochemistry technician (B.A. or M.A. in chemistry preferred) to assist in preparing radiotracers and operating a cyclotron. Send résumé to: **Dr. Robert F. Dannals, Division of Nuclear Medicine, Johns Hopkins Medical Institutions, 615 North Wolfe Street, Baltimore, MD 21205-2179.**

1 SEPTEMBER 1987 POSITION OPEN

POSTDOCTORAL FELLOWSHIP IN MOLECULAR GENETICS: To isolate and characterize species-specific dispersed repeated sequences from wild *Oryza* species and assess their species specificity relative to cultivated rice as part of a project on genetic engineering of rice. Salary commensurate with qualifications. *An Affirmative Action/Equal Opportunity Employer.* Please send statement of research interests, résumé and transcripts, and three letters of reference to:

**Dr. J. P. Gustafson
Department of Agronomy
208 Curtis Hall
University of Missouri
Columbia, MO 65211
Telephone: 314-882-7318**

The Race is Hours!

GENE-TRAK Systems is setting the pace for DNA probe-based diagnostic products for the food and clinical markets. Join our innovative and fast-growing company. We have an immediate need for the following doctoral research scientists.

PROJECT LEADERS

Responsible for developing rapid nucleic acid based assays for the detection of pathogens causing sexually transmitted diseases, gastro-intestinal diseases and human viral infections. Will manage research and development efforts in product development of infectious disease diagnostics. Applicants should be skilled in molecular biology, clinical microbiology and had prior experience in 510K submissions and transfer of products to manufacturing.

STAFF SCIENTISTS

R&D POSITIONS available with primary responsibility to develop nucleic acid probes for the specific detection of a variety of important organisms/viruses in clinical and environmental samples. Research experience in molecular biology/probe development, with a strong and relevant publication record is required.

TECHNICAL SUPPORT POSITION available with responsibility for troubleshooting of production and quality control problems. Will provide technical interface with R&D for product improvement, scale-up and process development in the transfer of new products. Previous product development experience required.

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ENVIRONMENTAL CHEMIST/MODELER

Mobil

Mobil Oil Corporation is seeking two highly qualified Environmental Scientists to join its Environmental Affairs and Toxicology Department located near Princeton, New Jersey. The successful candidates will conduct studies or coordinate projects aimed at elucidating fate, transport and effects of petroleum related materials in soil and aquatic environs.

ENVIRONMENTAL CHEMIST

Responsibilities include the development and use of analytical techniques to monitor the fate and transport of complex petroleum mixtures and related chemicals, metals in soil, riverine and marine environments; design and conduct sampling programs; prepare overall assessments of fate and effects; and utilize and apply working knowledge of related Federal regulatory guidelines.

The candidate should have knowledge/experience in the following areas: pollutant cycles, soil/sediment chemistry, sorption/binding, bioaccumulation, marine chemistry, effluent/waste treatment processes, photolysis/hydrolysis and computer modeling. Effective written/oral communication skills are essential.

This position requires an advanced degree (preferably Ph.D.) in Environmental Sciences or related discipline and 2 to 4 years of relevant experience.

ENVIRONMENTAL MODELER

Responsibilities include the development and use of environmental fate models for simulating migration, transport and attenuation of petroleum related materials; utilize/validate existing EPA and USDA fate and transport models; and generate in-house software to stimulate pollutant cycle processes.

The candidate should have a M.S. Degree in Math, Chemistry, Biology, Computer or Environmental Sciences. Working knowledge of environmental processes, existing fate/transport models, QSAR, DEC systems and environmental monitoring techniques.

For confidential consideration, please forward your resume and salary history to: Manager, Recruiting and Employment, Dept. ECM, Mobil Technical Center, Employee Relations, P.O. Box 1031, Princeton, New Jersey 08540.

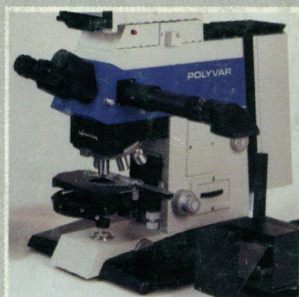
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