

## Books Received

- Advances in Age Pigment Research.** E. Aloj Tolaro, P. Glees, and F. A. Pisanti, Eds. Pergamon, Elmsford, NY, 1987. x, 427 pp., illus. \$94. Advances in the Biosciences, vol. 64. From a workshop, Vico Equense, Italy, May-June 1985.
- Alkaline Rocks and Carbonatites of the World.** Part 1, North and South America. Alan R. Woolley. British Museum (Natural History), London, and University of Texas Press, Austin, 1987. vi, 216 pp., illus. \$65.
- Applications of Control Theory in Ecology.** Y. Cohen, Ed. Springer-Verlag, New York, 1987. viii, 101 pp., illus. Paper, \$16.30. Lecture Notes in Biomathematics, vol. 73. From a symposium, Syracuse, NY, Aug. 1986.
- Applied Geodesy.** Stuart Turner, Ed. Springer-Verlag, New York, 1987. viii, 393 pp., illus. Paper, \$44.60. Lecture Notes in Earth Sciences, vol. 12. From a course, Geneva, Switzerland, April 1986.
- Atlas on the Biology of Soil Arthropods.** Gerhard Eisenbeis and Wilfried Wichard. Springer-Verlag, New York, 1987. xiv, 437 pp., illus. \$120.
- The Biology of Dinoflagellates.** F. J. R. Taylor, Ed. Blackwell Scientific, Palo Alto, CA, 1987. xii, 785 pp., illus. \$180. Botanical Monographs, vol. 21.
- Biosphere.** The Realm of Life. Robert A. Wallace, Jack L. King, and Gerald P. Sanders. Scott, Foresman, Glenview, IL, 1987. xxviii, 780 pp., illus., + appendices and index. \$33.
- Cellulose Hydrolysis.** L. T. Fan, M. M. Gharpuray, and Y.-H. Lee. Springer-Verlag, New York, 1987. xiv, 198 pp., illus. \$101.50. Biotechnology Monographs, vol. 3.
- Cerebral Cortex.** Vol. 6, Further Aspects of Cortical Function, Including Hippocampus. Edward G. Jones and Alan Peters, Eds. Plenum, New York, 1987. xiv, 464 pp., illus. \$69.50.
- Cerebrovascular Diseases.** William J. Powers and Marcus E. Raichle, Eds. Raven, New York, 1987. xxii, 374 pp., illus. \$98. From a conference, St. Louis, MO, March 1986.
- Chaos in Biological Systems.** H. Degn, A. V. Holden, and L. F. Olsen, Eds. Plenum, New York, 1987. xii, 323 pp., illus. \$62.50. NATO Advanced Science Institutes Series A, vol. 138. From a workshop, Cardiff, Wales, Dec. 1986.
- Clouds in a Glass of Beer.** Simple Experiments in Atmospheric Physics. Craig F. Bohren. Wiley, New York, 1987. xx, 195 pp., illus. Paper, \$12.95. Wiley Science Editions.
- Dipeptides as New Substrates in Nutrition Therapy.** Peptide als neue Substrate in der Ernährungstherapie. S. A. Adibi *et al.*, Eds. Karger, Basel, 1987. viii, 196 pp., illus. \$42. Contributions to Infusion Therapy and Clinical Nutrition, vol. 17. From a symposium, Erlangen, F.R.G., July 1986.
- Elites and the Idea of Equality.** A Comparison of Japan, Sweden, and the United States. Sidney Verba *et al.* Harvard University Press, Cambridge, MA, 1987. xii, 331 pp., illus. \$30.
- Energy Nutrition of Women.** Geoffrey H. Bourne, Ed. Karger, Basel, 1987. x, 265 pp., illus. \$162. World Review of Nutrition and Dietetics, vol. 52.
- Forestry and the Forest Industries.** Past and Future. E. G. Richards, Ed. Nijhoff, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xii, 428 pp., illus. \$92.50. Forestry Sciences.
- From Hamiltonians to Phase Diagrams.** The Electronic and Statistical-Mechanical Theory of sp-Bonded Metals and Alloys. Jürgen Hafner. Springer-Verlag, New York, 1987. xii, 404 pp., illus. \$69.50. Springer Series in Solid-State Sciences, vol. 70.
- A Handbook of Mexican Roadside Flora.** Charles T. Mason, Jr., and Patricia B. Mason. University of Arizona Press, Tucson, AZ, 1987. iv, 380 pp., illus. Paper, \$19.95.
- The Health of Nations.** True Causes of Sickness and Well-Being. Leonard A. Sagan. Basic Books, New York, 1987. vi, 233 pp., illus. \$19.95.
- Host-Parasite Cellular and Molecular Interactions to Protozoal Infections.** K.-P. Chang and David Snary, Eds. Springer-Verlag, New York, 1987. xx, 425 pp., illus. \$115. NATO Advanced Science Institutes Series H, vol. 11. From a workshop, Acquafredda di Maratea, Italy, Sept.-Oct. 1986.
- How Experiments End.** Peter Galison. University of Chicago Press, Chicago, 1987. xii, 330 pp., illus. Paper, \$14.95.
- Immunology.** A Short Course. Eli Benjamini and Sidney Leskowitz. Liss, New York, 1987. xxii, 390 pp., illus. Paper, \$22.95.
- Keeping the Dream Alive.** Putting NASA and America Back in Space. Michael C. Simon. Earth Space Operations, San Diego, CA, 1987. vi, 218 pp. + plates. Paper, \$11.95.
- Mathematical Aspects of Hodgkin-Huxley Neural Theory.** Jane Cronin. Cambridge University Press, New York, 1987. xii, 261 pp., illus. \$49.50. Cambridge Studies in Mathematical Biology, vol. 7.
- The Measure of Times Past.** Pre-Newtonian Chronologies and the Rhetoric of Relative Time. University of Chicago Press, Chicago, 1987. x, 292 pp. \$27.50.
- The Measurement of Moral Judgment.** Anne Colby and Lawrence Kohlberg. Cambridge University Press, New York, 1987. Two vols. Vol. 1, Theoretical Foundations and Research Validation. x, 397 pp., illus. Vol. 2, Standard Issue Scoring Manual. x, 977 pp. Spiral bound. \$165.
- Mechanistic Approaches to Interactions of Electric and Electromagnetic Fields with Living Systems.** Martin Blank and Eugene Findl, Eds. Plenum, New York, 1987. x, 443 pp., illus. \$85.
- Meteorite Craters.** Kathleen Mark. University of Arizona Press, Tucson, AZ, 1987. xvi, 288 pp., illus. \$29.95.
- Search for a Supertheory.** From Atoms to Superstrings. Barry Parker. Plenum, New York 1987. x, 292 pp., illus. \$21.95.
- The Second Creation.** Makers of the Revolution in Twentieth-Century Physics. Robert P. Crease and Charles C. Mann. Collier (Macmillan), New York, 1987. xii, 480 pp., illus. Paper, \$11.95. Reprint, 1986 edition.
- Second International Conference on Chemical Engineering Education.** (Cambridge, U.K., April 1987.) D. C. Freshwater, Ed. Institution of Chemical Engineers, Rugby, U.K., 1987 (U.S. distributor, Pergamon, Elmsford, NY). viii, 398 pp., illus. \$51.50. Institution of Chemical Engineers Symposium Series, no. 101.
- Solvation Thermodynamics.** Arieh Ben-Naim. Plenum, New York, 1987. xiv, 246 pp., illus. \$49.50.
- Survival Strategies for New Scientists.** Carl J. Sindermann. Plenum, New York, 1987. 264 pp. \$17.95.
- System Design for Human Interaction.** Andrew P. Sage, Ed. IEEE Press, New York, 1987. viii, 488 pp., illus. \$69.95; to IEEE members, \$52.50. IEEE Press Selected Reprint Series.
- Systems and Control Encyclopedia.** Theory, Technology, Applications. Madan G. Singh, Ed. Pergamon, Elmsford, NY, 1987. Eight volumes. lxiv, 5611 pp., illus. \$2300.
- Taking Japan Seriously.** A Confucian Perspective on Leading Economic Issues. Ronald Dore. Stanford University Press, Stanford, CA, 1987. x, 264 pp. \$35; paper, \$11.95.
- Taxonomy of Porifera.** From the N. E. Atlantic and Mediterranean Sea. Jean Vacelet and Nicole Boury-Esnault, Eds. Springer-Verlag, New York, 1987. viii, 332 pp., illus. \$89. NATO Advanced Science Institutes Series G, vol. 13. From a workshop, Marseille, France, Sept. 1986.
- Technetium in Chemistry and Nuclear Medicine.** 2. Marino Nicolini, Giuliano Bandoli, and Ulderico Mazzi, Eds. Cortina, Verona, 1987 (U.S. distributor, Raven, New York). xxii, 354 pp., illus., + appendix. \$111.50. From a symposium, Padua, Italy, Sept. 1985.
- Thermal Flow in Porous Media.** Horia I. Ene and Dan Polisevski. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). x, 194 pp., illus. \$64. Theory and Applications of Transport in Porous Media.
- Thin-Layer Chromatographic R<sub>f</sub> Values of Toxicologically Relevant Substances on Standardized Systems.** Deutsche Forschungsgemeinschaft. VCH, New York, 1987. 223 pp. \$49.50. Report of the DFG Commission for Clinical-Toxicological Analysis, no. 7.
- The Unfulfilled Promise of Synthetic Fuels.** Technological Failure, Policy Immobilism, or Commercial Illusion. Ernest J. Yanarella and William C. Green, Eds. Greenwood, Westport, CT, 1987. xxiv, 225 pp. \$39.95. Contributions in Political Science, no. 179.
- Viable Populations for Conservation.** Michael E. Soulé, Ed. Cambridge University Press, New York, 1987. xii, 189 pp., illus. \$44.50; paper, \$16.95.
- The Viriolds.** T. O. Diener, Ed. Plenum, New York, 1987. xxii, 344 pp., illus. \$59.50. The Viruses.

(Continued from page 267)

detailed known pathway, that of bovine pancreatic trypsin inhibitor (BPTI), requires further information about the conformations of the disulfide intermediates. The major one-disulfide intermediate, with the only disulfide bond between residues 30 and 51, was shown by T. G. Oas and P. S. Kim (Whitehead Institute) to be approximated remarkably closely by two synthetic peptides, corresponding to residues 20 to 33 and 43 to 58, linked by that single disulfide bond. Using genetic engineering techniques with intact BPTI, D. P. Goldenberg (University of Utah) demonstrated that drastic single amino acid replacements of internal residues made varying, but often substantial, alterations of up to 6 kcal/mol to the relative free energies of the various intermediates, the transition states, and the final folded conformation. The conformational properties of such partially folded intermediates may now be elucidated using NMR techniques; when combined with genetic engineering technology, this should permit the conformational forces that direct folding pathways to be elucidated experimentally.

Protein folding in vivo as a biological phenomenon is becoming

increasingly amenable to study. Investigations of in vivo gene expression are uncovering many phenomena where folding (or the absence of folding) of the polypeptide gene product is apparent. These include (i) the need to prevent or reverse folding prior to translocating a polypeptide chain through a membrane, (ii) folding and assembling it once across the membrane, and (iii) targeting it to its appropriate cellular location. The involvement of other proteins in many of these steps suggests that it is dangerous to extrapolate protein folding from in vitro to in vivo circumstances. In any case, folding in vivo is certain to come under increasing experimental scrutiny. Finally, the dramatic medical consequences of single site mutations that alter procollagen assembly and folding in humans, described by P. Byers (University of Washington), left no doubt that the problem of protein folding is of more than academic interest.

## REFERENCES

1. C. C. Hyde, E. A. Padlan, S. A. Ahmed, E. W. Miles, D. R. Davies, *Fed. Proc.* **46**, 2215 (1987); personal communication.

## Products & Materials

### *Monoclonal Antibody Purifier*

The MabLab is an automated system for purifying monoclonal antibodies by affinity chromatography. The system analyzes an antibody solution and determines within hours how to purify it. All purification data are stored in memory for future reference. As much as 2 g of purified antibodies with a purity of better than 95% can be produced each day, and the system can operate continuously and unattended. MabLab works with almost all immunoglobulin G and some immunoglobulin M. After each batch of antibody is finished, MabLab automatically enters a cleaning cycle. The software consists of an expert system control program, which not only chooses the purification method but monitors and controls the purification. OROS Systems. Circle 561.

### *Planar Liquid Chromatography*

The HPPLC 3000 performs circular and anticircular separations by high-pressure planar liquid chromatography (HPPLC). Two minutes of time and 1 ml of mobile phase suffice to separate 1 to 50 samples. The sampling range is from 10 to 200 nl in multisample mode and can be more than 100  $\mu$ l in single-sample mode. Chemically inert separations result because the separation occurs under glass without light or air. Heyltx. Circle 563.

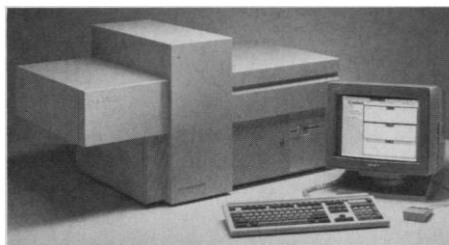
### *Stability-Variance Software*

STABLE is a software program written in BASIC for calculating stability-variance parameters for genetics. The program works with a maximum of 100 genotypes (with 19 environments) or a maximum of 40 environments (with 40 genotypes); other combinations are also possible. The program calculates and prints Wricke's ecovalence, Shukla's stability variance statistics, location or

environmental means, genotype means, and the total genotype by environment interaction. STABLE operates on IBM and compatible personal computers. M. S. Kang. Circle 566.

### *Densitometer*

The 300A Computing Densitometer quantifies an electrophoresis gel in about 3 minutes. It uses a line scanner and an integrating cylinder to measure the entire gel area, thus avoiding labor-intensive single-line measurements. Because the light-inte-



grating cylinder collects almost all the transmitted light, including light scattered by the sample, accurate measurements can be made in the 3 to 4 OD range. The 300A's software analyzes peak areas statistically and allows the user to create macro commands and to view the results from four gels simultaneously. Molecular Dynamics. Circle 564.

### *Biocompatible Chromatograph*

The LC-7A liquid chromatograph withstands high-concentration salts. All parts that come into contact with samples, including pump, tubing, columns, and flow cell, are constructed of titanium to withstand corrosive mobile phases and to protect metal-sensitive proteins. The pump is programmable. Flow rates can be between 0.001 and 20 ml/min. Both high-pressure and low-pressure separation media may be used. Shimadzu Scientific Instruments. Circle 567.

### *Laboratory Application Language*

SALT II is a threaded interpretive language of about 200 instructions for laboratory applications. Lists of instructions to be performed together are compiled within a BASIC program and can be called later with a single CALL instruction. The tasks then execute at assembly-language speed. SALT II thus provides speed for time-critical laboratory operations while preserving the inter-

active nature of BASIC for debugging. Routines are included for graphics, statistical analyses, interfacing, and rapid transfer of numeric files to and from disk. The language comes with example programs that allow the computer to act as a strip-chart recorder, a digital oscilloscope, a signal averager, a waveform monitor, and a multichannel data recorder. SALT II operates on computers of the IBM PC family equipped with PC- or MS-DOS, a color graphics adapter, and a TECMAR Labmaster board. \$75. S. Fenster. Circle 562.

### *DNA Synthesizer*

The DNA 102 is a double-columned DNA synthesizer. It produces either short fragments or sequences of 100 bases or more. Formulas are automatically displayed when sequences are entered into the synthesis program, allowing the user to know if enough reagents for the synthesis remain in the bottles. Interactive menu-driven software simplifies the input of sequence parameters and calculates and displays the total time required for synthesis. Should operation be interrupted, the synthesis will automatically advance to a point where the end product will not be adversely affected by the interruption. The DNA 102 comes programmed for operation with  $\beta$ -cyanoethyl phosphoramidite chemistry, but the user may program it for other chemistries as well. The work surface is chemically inert and cleans easily. Bottle attachments and reagent labels are color coded to help prevent mistakes. Biotix. Circle 568.

### *Literature*

*Tech News* is a quarterly newsletter about evaporators, circulators, and baths, and chromatography laboratory aids. HBI Haahe Buchler Instruments. Circle 556.

*Microscale* is a 48-page catalog of glassware with small volumes. KONTES. Circle 571.

*1988 Handbook & General Catalog* has 350 pages of chromatography products, sample-handling products, biotechnology reagents, and immunology products. Pierce. Circle 572.

*Instrumentation Equipment 1988-89 and Lab Accessories & Supplies* are a set of two catalogs featuring products for filtration, lighting, liquid handling, sample management, water purification, stirring and mixing, chromatography, and measuring pH, conductivity, temperature, and oxygen. Whatman LabSales and Chemtrix. Circle 577.

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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.

# Personnel Placement

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

## LINE CLASSIFIED ADVERTISING DEADLINES:

Thursday, 10 a.m., 2 weeks prior to issue date (mailed on issue date). For deadlines for display advertising, please contact Scherago Associates.

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## To ESTIMATE ad cost:

Structure ad copy on a separate page, on lines of 52 characters and spaces. Include any desired heading. Each line of heading, and/or extra line spaces, and all partial lines (including centered reply information) are counted as full lines. Ad titles located within the text are printed in boldface caps and are only 32 characters per line. In ESTIMATING the cost, multiply total lines x \$38.00 = approximate cost of ad. (This is an approximate cost ONLY; Allow for variation between estimated lines and actual typeset lines and the resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.)

## CANCELLATION POLICY:

NOTE: Ad cancellations made after Thursday, TWO weeks prior to issue date incur a 10% production charge. Final deadline for cancellations is 12 p.m. Tuesday, ONE week prior to issue date. Cancellations must be in writing.

Send copy for all **Positions Wanted** ads and **Line Classified** ads less than 1/6 page in size (39 lines) to:

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1333 H Street, NW, Room 940  
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**Scherago Associates, Inc.**  
1515 Broadway  
New York, NY 10036  
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

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**SCIENCE**  
1333 H Street, NW  
Washington, DC 20005

## POSITIONS WANTED

**Biochemistry, M.S.** Protein purification, fluorescence techniques, HPLC, lab management, teaching. Mid-South, industrial preferred. Box 51, **SCIENCE**.

**Biochemistry Technologist, B.S., Research Associate, 1981.** Seventeen years of experience (research, industry) in a variety of biochemical, enzymatic, ELISA immunological assays, which involved using radioisotopic techniques, paper chromatography, measure enzyme activities, various colorimetric techniques for locating, quantitating proteins and carbohydrates. Purification and characterization of protein, enzymes. Experienced with gel filtration, ion-exchange, affinity chromatography, gel electrophoresis and isoelectric focusing. Also recombinant membrane, membrane preparation, bacteria culture. Excellent skills. Seeks research/academic/industrial or medical laboratory speaking English in Canada. Box 38, **SCIENCE**.

## POSITIONS WANTED

**Cardiovascular Physiologist (Ph.D., 1981).** Research experience in canine endotoxin shock, rat myocardial ischemia/reperfusion injury, oxygen free radical effect on isolated canine cardiac sarcoplasmic reticulum and arrhythmogenesis in isolated rat myocardium. Large, small animal surgery. Hemodynamics measurements. Two years of undergraduate, 3 years of graduate teaching. Eleven refereed manuscripts, six chapters. Successful grant writer. Good scientific editor. Good speaker. Good interpersonal skills. Seeks research/academic/administrative industrial position in Richmond/Charlottesville, VA, area. Box 56, **SCIENCE**.

**Cellular Enzymologist/Toxicologist, M.D., Ph.D.** with recent extensive involvement in the development of new technologies for in vitro drug toxicity and sensitivity testing, proprietor of several possible patents, seeks Senior Research Scientist position and patents promotion in pharmaceutical industry, medical schools or other appropriate research institutions. Box 57, **SCIENCE**.

**Cytogeneticist, Ph.D.** Directs full-service medical cytogenetics laboratory; extensive experience in human and mammalian cytogenetic analysis. Research interests: tumor cytogenetics, chromosome and DNA damage. Seeks position in research and medical cytogenetic laboratory. Box 58, **SCIENCE**.

**D.P.M.,** Four years of clinical experience. Strong biomechanical background. Academic orientation. Seeks research/teaching position in biomedicine, cell biology, or pharmaceuticals. New York, New Jersey vicinity. Box 59, **SCIENCE**.

**Foreign Biochemist.** Twenty-two years of clinical and basic biochemistry—experienced visiting associate professor, various skilled advanced laboratory techniques. Publications in biochemistry, clinical chemistry, lipids, lipoproteins. 1519 1/2 Blair Avenue, St. Paul, MN 55104.

**Organic Chemist, Ph.D.:** organic, physical, and polymer chemistry and chemical engineering studies in graduate program. Research on specialty organic chemicals, polymers, monomers, dyes, pigments, surfactants, biologically active compounds, textile and leather chemicals, heterocyclic and organometallic compounds. Pilot plant and commercial plant process development. Computer experience. Publications and patents. Box 60, **SCIENCE**.

**Ph.D. in nutrition (1986).** Two years of postdoctoral experience. Research experience in molecular biology, enzymology and protein purification. Seeking academic or industry research opportunities. Box 54, **SCIENCE**.

**Physiologist, M.D.** Research experience in nephrophysiology (hemodynamics, endocrinology). Clinical experience in general internal medicine. Teaching experience in medical physiology. Box 31, **SCIENCE**.

## POSITIONS OPEN

### ACADEMIC POSITION

The University of California, Davis, School of Medicine is recruiting for a full-time faculty member to be jointly appointed 50% in the Department of Pharmacology and 50% in the Department of Internal Medicine/Cardiology. Appointment will be at the assistant or associate professor level commensurate with qualifications and experience. Candidates must have a Ph.D. or M.D. or M.D./Ph.D. M.D. applicants must be Board-certified in internal medicine in at least one of the following areas: central neural control mechanisms, neurophysiology, neuropharmacology or neuroanatomy with reference to autonomic control mechanisms regulating the cardiovascular system. Responsibilities will include teaching, research and, if applicable, clinical rotations in cardiology.

Please submit a letter outlining research and teaching background, and identifying current research interests along with curriculum vitae and the names of three references to: **Larry G. Stark, Ph.D., Professor and Chairman, Department of Pharmacology, School of Medicine, University of California, Davis, CA 95616.**

Applications will not be accepted after 31 August 1988. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

**AQUACULTURIST—SHELLFISH** position is available immediately. Ongoing program in aquaculture with current emphasis on production of disease-resistant oysters. Position includes techniques, facility upgrade and liaison with shellfish industry. Salary commensurate with experience. Submit curriculum vitae and names of three references to: **Dr. John N. Krauter, Rutgers University, P.O. Box 687, Port Norris, NJ 08349.**

Pulmonary Division, University of Pittsburgh School of Medicine. Tenure/nontenure-track position at the **ASSISTANT PROFESSOR** level available for Ph.D. with a strong background in cellular physiology and biochemistry. The candidate would be expected to pursue an independent research program, as well as collaborate with M.D.'s interested in the role of soluble mediators of inflammation elaborated by neutrophils, macrophages and lymphocytes in a variety of parenchymal lung diseases. Experience in tissue culture, ultrastructure, and lipid and protein identification/purification is desired. Applicants should submit curriculum vitae, a statement of research interests, and three letters of reference to: **James Dauber, M.D., Pulmonary Medicine, 440 Scaife Hall, Pittsburgh, PA 15261.**

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## ASSISTANT PROFESSOR OF ONCOLOGY

Applications are invited for a position as assistant professor of oncology at the McArdle Laboratory of the University of Wisconsin, Madison. We are seeking a scientist who is intellectually interested in cancer research as evidenced, for example, by research in one of the following areas: (i) activation and functional analysis of proto-oncogenes; (ii) mechanisms of multistage carcinogenesis; (iii) human and animal cancer genetics; (iv) regulation of the growth and differentiation of normal and neoplastic cells; (v) viruses associated with human cancers. Review of applications will begin on 1 June 1988, but applications will be accepted until the position has been filled. Applicants should submit curriculum vitae, a list of publications, and a brief statement of both their prior research accomplishments and, most importantly, their future research objectives. They should also request that at least three letters of recommendation be sent to: **Dr. Henry C. Pitot, Chairman and Director, Department of Oncology, McArdle Laboratory for Cancer Research, University of Wisconsin, Madison, 450 North Randall Avenue, Madison, WI 53706.**

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## ASSISTANT TO FULL PROFESSOR

The Department of Pharmacology at Case Western Reserve University has positions available for two faculty members at either the junior or senior level. Candidates must have outstanding research credentials in defining actions of chemical agents at the molecular level. Research areas involving molecular endocrinology, molecular genetics, drug metabolism, and/or cellular signaling by growth factors, neurotransmitters or second messengers are of particular interest. Application letters together with curriculum vitae, statement of research interests, and the names of three referees should be sent to: **Dr. Leslie T. Webster, Jr., Department of Pharmacology, School of Medicine, Case Western Reserve University, Cleveland, OH 44106. Telephone: 216-368-3394. An Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.**

**ASSOCIATE RESEARCH SCIENTIST:** Postdoctoral position immediately available for individual to work in the laboratory of **Dr. Peter Elsbach.** Candidate should have solid training and proven experience in recombinant DNA-technology and should wish to join productive program concerned with the molecular biology of a potent membrane-perturbing bactericidal protein, purified from neutrophils, that is specific for Gram-negative bacteria. This protein activates a few of many phospholipases A2. The structural basis of this selectivity is being unraveled. Excellent salary and benefits. Interested candidates are requested to send résumé, publications and names of two references to: **Joan Harmon, Personnel Department, New York University Medical Center, 550 First Avenue, New York, NY 10016. Equal Opportunity Employer M/F.**

## DESERT RESEARCH INSTITUTE

### VICE PRESIDENT FOR RESEARCH

The Desert Research Institute (DRI) is the major research division of the University of Nevada System. The Institute is dedicated to the conduct of regional, national and international programs of basic and applied research related to statewide natural resources problems and to Nevada's economic development. DRI has five major research centers located in four statewide research facilities that house over 250 research faculty and staff. The Institute has a \$14 million budget which has been growing at about 12% per year and it draws its funding equally from government and private industry. The State of Nevada provides funding for administration of the Institute.

The Vice President for Research is the senior research administrator for the Desert Research Institute and reports directly to the President. The Vice President for Research provides leadership to the Institute in the acquisition of major new science and engineering research programs at the national and international levels; coordinates the development of long-range plans for expansion of the research base of the Institute including staffing, facilities and equipment; and coordinates Institute-wide research programs of major scope and complexity. The Vice President for Research will work closely with the UNS Vice Chancellor for Academic Affairs, academic and research vice presidents of the two Universities, and with the administrative officers of their Graduate Schools in promoting the acquisition and development of research throughout the University System. The Vice President for Research will provide administrative support to personnel matters related to the development of the Institute's research faculty and staff.

Qualifications include a doctorate degree in a science, engineering or a closely related field. Experience should include at least five years in the actual conduct or management of scientific or engineering research programs, preferably in a not-for-profit institution. The successful candidate will be recognized at the national or international level for contributions to science or engineering. The successful applicant should have demonstrated ability to work effectively with scientists and engineers in managing sophisticated and complex programs of scientific research, in the successful acquisition of government and private industrial funding, and in the ability to develop long-range plans to guide development of research programs.

Salary is competitive, depending upon qualifications and experience. The Vice President for Research will have statewide responsibilities for the Institute and will be located at DRI's Science Center in Las Vegas. Applications must be received by June 30, 1988. To apply, send letter of application, current resume, and list of references to: Chairperson, Search Committee, Vice President for Research, Desert Research Institute, University of Nevada System, P. O. Box 60220, Reno, Nevada 89506.

The Desert Research Institute is an Affirmative Action/Equal Opportunity Employer.



### RESEARCH FELLOW

\$28,629-\$41,861

### DIVISION OF ATMOSPHERIC RESEARCH, ASPENDALE, VICTORIA

**FIELD:** Numerical modelling of severe storms precipitation.

**THE DIVISION:** The Division of Atmospheric Research maintains a broadly-based research program in mesoscale meteorology involving field observations, laboratory experiments and theoretical and numerical modelling studies. The present focus of this work is shifting towards mesoscale storm systems and precipitation processes.

Other research in the Division is concerned with remote sensing, global atmospheric change climate dynamics and air pollution.

The Division has excellent computing facilities, with access to a CYBER 205 through CSIRONET and a number of smaller computers on site, including a micro-VAX 2 for post-processing of model output.

**THE JOB:** Using numerical models, the appointee will undertake research into the atmosphere studying those factors significantly influencing precipitation from mesoscale storm systems. The successful applicant will be expected to interact fully with other scientists in the program, particularly through the use of extensive field data sets for model validation.

**THE PERSON:** Applicants should have a Ph.D. or equivalent qualification in mathematics, physics or meteorology, with demonstrated skills in atmospheric numerical modelling. A sound knowledge of mesoscale dynamics and precipitation processes is desirable.

**CONDITIONS:** Appointment will be for a term of 3 years, with Australian Government superannuation benefits available.

**MORE INFORMATION:** Intending applicants are invited to telephone Ms. Michelle Laricchia on (03) 586 7604 for a copy of the detailed job description and selection criteria. Further information on the position may be obtained from Dr. Brian Sawford on (03) 586 7638.

**APPLICATIONS:** Applications should be submitted by 6 May 1988 and quote reference number A1033. They should be framed against the selection criteria, and should state relevant personal particulars including details of qualifications and experience. Applicants should nominate at least two professional referees, and address their applications to:

The Chief,  
CSIRO Division of Atmospheric Research,  
Private Bag No. 1,  
Mordialloc Vic. 3195.

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AT88/05

## Computational Chemistry/ Molecular Modeling/ Scientific Programming

Merck, Sharp & Dohme Research Laboratories, a leader in the discovery and development of new pharmaceutical agents for human and animal health has several openings for Computational Chemists, and one opening for a Scientific Programmer in our Molecular Systems Group at Rahway, New Jersey and West Point, Pennsylvania.

The successful Computational Chemistry candidates will have a Ph.D. in organic/medicinal/pharmaceutical chemistry or biochemistry, with one or more years of postdoctoral experience; familiarity with a range of modeling hardware and software; and experience in a range of applications (small molecule conformation/reativity, polypeptide conformation, enzyme inhibition, peptide mutation modeling). You will use the computer to advance drug discovery projects in collaboration with scientists, and will collaborate with other Molecular Systems staff in improving modeling methodology.

The Scientific Programmer position requires a Ph.D. or equivalent experience in chemistry, biochemistry, or biophysics; however, we will consider outstanding individuals with a B.S./M.S. or equivalent in the above disciplines or in computer science. Significant experience in scientific programming in FORTRAN or C is required together with a firm grounding in mathematics through differential equations. Computer Science applicants must have a knowledge of at least elementary organic chemistry. Also desirable are knowledge of the VAX/VMS and IBM MVS/XA operating systems, as well as knowledge of macro assembler language for these machines. Computer graphics programming experience is also highly desirable, as is knowledge of high-performance work stations. The successful candidate will join a staff supporting a range of modeling applications programs, and developing a new proprietary molecular/macromolecular modeling system.

Interested candidates should send a resume and three letters of reference to Mrs. Susan R. Jenkins, Merck Sharp & Dohme Research Laboratories, P.O. Box 2000, Rahway, NJ 07065. Merck is an equal opportunity employer, m/f.



**Merck & Co., Inc.**

## POSITIONS OPEN

**ASSISTANT PROFESSOR:** New York State PT license/eligible. Ph.D., or all-but-dissertation. Previous teaching experience; research interests commensurate with department mission. Duties include undergraduate and graduate teaching, direction and conduct of research in one or more of the following areas: normal development, pediatrics, psychosocial aspects of rehabilitation. Salary commensurate with background and experience. Application deadline: 1 May 1988. Send curriculum vitae to: **Dr. Susan Roehrig, Director, PT Program, SUNY/Bufalo, 411 Kimball Tower, Buffalo, NY 14214. SUNY at Buffalo is an Affirmative Action/Equal Opportunity Employer.**

**ASSISTANT PROFESSOR, AQUATIC TOXICOLOGIST.** Academic year tenure-track position available fall 1988. Applicants should be able to teach aquatic toxicology, develop a course in the candidate's area of interest, and participate in an introductory course. Candidates will be expected to develop a research program and direct M.S.-level graduate research. Ph.D. and a strong commitment to teaching required. Send curriculum vitae, graduate/undergraduate transcripts, and three letters of recommendation by 13 May 1988, **James E. Parry, Department of Biology/Microbiology, University of Wisconsin-La Crosse, La Crosse, WI 54601. An Affirmative Action/Equal Opportunity Employer.**

### DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOPHYSICS VIRGINIA COMMONWEALTH UNIVERSITY ASSISTANT PROFESSOR— MOLECULAR BIOLOGY

The Department seeks applicants for a tenure-track appointment at the assistant professor level. Applicants must hold the Ph.D. degree, or Doctor of Science or equivalent and have had 2 years of postdoctoral experience. Duties will include participation in the teaching programs of the department. A complete description of the responsibilities of the position is available on request and will be forwarded to all applicants. In addition, the successful applicant will be expected to develop a strong, independent research program. Candidates must display evidence of research productivity and the potential for securing extramural funding as evidenced by publication record. Preference will be given to those with recent training and expertise in molecular biology, preferably with applications in cellular developmental biology and/or neuroscience. Applicants should send curriculum vitae, statement of research interests, and plans and three letters of recommendation to:

**Chairman, Search Committee (Molecular Biology)  
Department of Biochemistry and  
Molecular Biophysics  
Virginia Commonwealth University  
1101 East Marshall Street  
Richmond, VA 23298-0614**

Applications will be accepted until 31 August 1988 or until a suitable candidate has been identified.

*Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

### ASSISTANT PROFESSOR OF PHYSIOLOGY

The Department of Physiology is seeking candidates for a faculty (12-month, tenure-track) position at the assistant professor level. The Department has an orientation in the area of cardiopulmonary physiology. We seek an individual whose research interests relate to the microcirculation or vascular endothelial cell function, but encourage applications from individuals in other areas of cardiovascular or pulmonary physiology as well. Requirements include Ph.D. or M.D., completion of 2 years of postdoctoral training, a sound background in general physiology, and the ability to develop own research program. Will be responsible for teaching gastrointestinal and portions of cardiovascular physiology in the medical physiology course. Opportunities exist for collaborative research and participation in graduate education. Submit curriculum vitae, statement of research interests, and names of three references by 16 May 1988 to: **Dr. Michael B. Maron, c/o The Office of Human Resources, Northeastern Ohio Universities College of Medicine, Rootstown, OH 44272. An Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSOR IN BIOLOGY (TENURE-TRACK) KALAMAZOO COLLEGE

Kalamazoo College invites applications from broadly trained biologists with interests in the molecular biology of prokaryotic or eukaryotic cells. Starting date between September 1988 and March 1989. A commitment to excellence in undergraduate teaching is required, as is an active research program which can involve undergraduate students. Send letter of application, curriculum vitae, and three letters of recommendation to: **Dr. David A. Evans, Department of Biology, Kalamazoo College, Kalamazoo, MI 49007.** The Search Committee will begin reviewing dossiers on 15 May 1988, and the search will continue until a candidate is selected. *Affirmative Action/Equal Opportunity Employer. Kalamazoo College is committed to diversity and particularly encourages women and members of minority groups to apply.*

### ASSOCIATE IN PAIN MANAGEMENT OREGON HEALTH SCIENCES UNIVERSITY SCHOOL OF MEDICINE

The Department of Anesthesiology at the Oregon Health Sciences University School of Medicine is recruiting for a full-time faculty member at the assistant professor level. The successful recruit will have an academic appointment in the School of Medicine, and will have teaching and research responsibilities in the Pain Management Center of our University Hospital. Candidates should have specific training (at least 3 months) in pain management and related research and should have experience in a multidisciplinary pain management center. Candidates should have an aptitude for research, demonstrated by primary authorship of peer-reviewed publications in the field of pain management and/or regional anesthesia. Ability to interact with basic and clinical scientists should be shown. Candidates should be certified by the American Board of Anesthesiology and have an Oregon medical license. Salary will be \$34,000 base per year, with overage from practice plan earnings. Interested candidates should send their curriculum vitae and the names of three references to: **Wendell C. Stevens, M.D., Professor and Chairman, Department of Anesthesiology, Oregon Health Sciences University, Portland, OR 97201.**

**BIOLOGY:** Biology faculty position available to teach basic courses in remote sensing, soils, and freshman biology labs. One-year appointment, commencing September 1988. Master's degree in life sciences required, including courses in remote sensing. Must have demonstrated ability to teach at the undergraduate level. Background in microbiology preferred, but not mandatory. Rank and salary commensurate with qualifications and experience. Applicants should submit a letter of application, résumé, and list of references to: **The Office of Employee Relations, Lake Superior State University, Sault Ste. Marie, MI 49783. Deadline: 11 May 1988. An Equal Opportunity/Affirmative Action Employer.**

### CELL BIOLOGIST

Challenging position available to maintain small cell culture laboratory, perform experiments, and train customers on a laser-microscope instrument (ACAS 470). Anchorage dependent tissue culture experience and B.S. or M.S. in biology or related field required. Must be creative, able to work independently on multiple projects, and have strong verbal communication skills. Familiarity with computers or fluorescent instrumentation desirable. Call or send résumé to: **Dr. Peggy Wade, Meridian Instruments, Inc., 2310 Science Parkway, Okemos, MI 48864. Telephone: 517-349-7200.**

Tennessee—**DIRECTOR OF PEDIATRIC RESEARCH**—The University of Tennessee Medical Center-Knoxville. Candidate must have a Ph.D. in physiology and 3 years of experience in renal physiology. Candidate will be responsible to develop, implement, and coordinate all pediatric research activities. Good organizational abilities and interpersonal communication skills are required. Candidate will be expected to write abstracts, research papers, collect, compile and interpret data for research. Interested candidates should apply to: **E. S. Moore, M.D., Chairman, Department of Pediatrics, The University of Tennessee Medical Center-Knoxville, 1924 Alcoa Highway Box 113, Knoxville, TN 37920. Equal Employment Opportunity/An Affirmative Action/Title IX/Section 504 Employer.**

## POSITIONS OPEN

**BIOCHEMIST.** Miami University, Department of Chemistry announces a tenure-track opening at the assistant professor level beginning August 1988 or January 1989. A Ph.D. in chemistry or biochemistry is required, and postdoctoral experience is expected. A research interest in the area of modern molecular biology is preferred. The successful candidate will teach in the graduate and undergraduate programs in a Ph.D.-granting chemistry department. The candidate will be required to establish a strong research program with external funding. Qualified persons should submit their curriculum vitae, a description of their proposed research projects, and arrange for three letters of recommendation to be sent to: **Dr. James Cox, Chair, Department of Chemistry, Miami University, Oxford, OH 45056.** Initial consideration of credentials will commence on 25 April 1988. The Search will continue until the position is filled. *Because Miami University is an Equal Opportunity/Affirmative Action Employer, women and minorities are particularly encouraged to apply for this position.*

### COMPUTATIONAL NEUROSCIENCE— AT&T BELL LABORATORIES

Position available for an **EXPERIMENTAL NEUROSCIENTIST** working at the cellular and systems level. The successful candidate is expected to establish a vigorous and independent research program. Both senior investigators and postdoctoral researchers with several years of experience are appropriate candidates. Bell Laboratories has a strong commitment to fundamental experimental and theoretical research in computational neuroscience. Send résumé, publications list, brief outline of proposed research, and names of three references to: **L. W. Jelinski, Department Head, Molecular Biophysics Research Department, AT&T Bell Laboratories, 600 Mountain Avenue, Murray Hill, NJ 07974.**

### COORDINATOR ELECTRON MICROSCOPY LABORATORY

Coordinate and maintain a multiuser EM Facility serving the biological and physical sciences. Applicant must be experienced in microscope maintenance, training users, specimen preparation and x-ray microanalysis. The facility has two TEMS (Philips 400 with STEM, JEOL 100CX), Philips 505 SEM, with ED-X-ray spectrometer. M.S. or B.S. required with at least 4 years of experience in electron microscopy. Salary dependent on training and experience. Send résumé to: **Dr. Jerome J. Paulin, Center for Advanced Ultrastructural Research, 152 Barrow Hall, University of Georgia, Athens, GA 30602.**

*An Equal Opportunity/Affirmative Action Institution*

### CORNEA RESEARCH

Search reopened. A joint appointment with the Department of Ophthalmology and Neurological Sciences Institute of Good Samaritan Hospital and Medical Center is available for a **SCIENTIST** with research interests in the cell biology, molecular biology, biochemistry, or immunology of the cornea. The successful candidate will be expected to establish a laboratory conducting independent basic research that complements current departmental clinical research interests in cornea. Postdoctoral research experience required. Level of appointment will depend upon research accomplishments. Please send inquiries and curriculum vitae with names of three references by 15 May 1988 to: **Michael W. Kaplan, Ph.D., Chairman, Cornea Search Committee, Neurological Sciences Institute, Good Samaritan Hospital and Medical Center, 1120 NW 20th Avenue, Portland, OR 97209-1595.**

*An Equal Opportunity Employer.*

### ELECTRON MICROSCOPIST/ IMAGE ANALYST

Postdoctoral position available to study the high resolution structure of sickle hemoglobin polymers and cytoskeleton-associated proteins. Research involves low-dose cryomicroscopy, tilt-stage reconstructions and digital image processing and analysis. Send curriculum vitae and names of three references to: **Dr. Robert Josephs, Department of Molecular Genetics, The University of Chicago, 920 East 58th Street, Chicago, IL 60637. An Affirmative Action/Equal Opportunity Employer.**





## ASSOCIATE DIRECTOR FOR REFERRAL AND REVIEW

Division of Research Grants  
National Institutes of Health  
Public Health Service  
A Senior Executive Service Vacancy

Closing Date: May 6, 1988

The Division of Research Grants, National Institutes of Health (NIH), invites applications for the position of Associate Director for Referral and Review. The Division is responsible for the receipt of all Public Health Service (PHS) grant applications for research and research training, the scientific merit review of these applications and referral to appropriate PHS components. Candidates must meet the minimum educational requirements for Health Scientist Administrator, possess knowledge of and have experience with scientific merit review as practiced at the NIH, understand the biomedical research community, and have shown evidence of skill in the negotiation of sensitive issues in a scientific environment. In addition, applicants must have demonstrated leadership qualities, be experienced in establishing and maintaining relationships with key individuals and groups outside the organization, experience in directing and guiding programs and projects, experience in establishing procedures for budget development and allocating fiscal and personnel resources, developing processes and overseeing activities to assure the fair and equitable employment of qualified persons, and experience in the development and implementation of procedures for monitoring program performance. Send an Application for Federal Employment (SF-171), curriculum vitae, bibliography, and current performance appraisal to:

CHARLES McL. HADLEY III  
PERSONNEL OFFICER  
DIVISION OF RESEARCH GRANTS  
NATIONAL INSTITUTES OF HEALTH  
5333 WESTBARD AVENUE, ROOM 438  
BETHESDA, MD 20892

All applications must be received by the closing date of May 6, 1988. Resumes alone are not acceptable applications for the Senior Executive Service.

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

## MOLECULAR BIOLOGIST

We seek a highly innovative scientist to contribute to the research of novel recombinant DNA technology. The ideal candidate will be actively involved in DNA cloning and manipulation, mutagenesis and vector construction/design. This opportunity requires a BS degree in Biology or related life science with minimum of one year's experience in the above areas.

## PROTEIN CHEMIST

An opening exists for an MS/BS level scientist to work on the purification, refolding and characterization of proteins expressed in *E. coli*. The ideal candidate should have experience in protein separation including ion exchange, affinity, HIC, reverse phase chromatography, gel electrophoresis, and western analysis. Experience in spectroscopy (UV-VIS, fluorescence, CD), with a minimum of 2 years' experience in protein chemistry is also desired. An interest in the structure and functions of proteins is preferred.

We offer a stimulating scientific environment in addition to competitive salary, comprehensive benefits package, and equity participation. Qualified candidates should forward a resume, in confidence, to Cindy Molnar, Genetics Institute, 87 CambridgePark Drive, Cambridge, MA 02140.

An Equal Opportunity Employer

## Genetics Institute

## REAGENT R&D Southeast, Florida

The Dade Division of the Fortune 75 Baxter Healthcare Corporation is a leading supplier of diagnostic products and instrumentation for clinical laboratories which is enjoying continued growth and expansion at its facilities in the U.S., Europe and Puerto Rico. The following positions require several highly motivated, results-oriented individuals to become members of our Stratus Reagent Development Department, where successful candidates would work with an exciting technology which has proven to be one of the most rapid and versatile means of enzyme immunoassay available today.

### SR. RESEARCH SCIENTIST Stratus Immunoassay System

This individual will be an assay development Project Leader working with the automated Stratus Immunoassay System. A Project Leader is responsible for the management of an assay development team including participation as a member of the team at the bench. The assay development team is responsible for an assay from its inception until it has been released to the marketplace. Ideal candidate will have a Ph.D. in a life science with a working knowledge of virology and must be well versed in EIA techniques with hands-on experience in their design and validation. Candidates with post-doctoral training, particularly in an industrial setting, will be given greater consideration. Strong written and oral communications skills and strong interpersonal skills are essential.

### GROUP LEADER Stratus Systems Surveillance

This individual will be responsible for the management of our Stratus analyzer reference facility and for our Stratus product surveillance group. As such, this individual must represent R&D in problem solving interactions with other functional groups both within and outside the organization. The successful candidate will have a minimum of a Bachelor's degree in a life science; an advanced degree is highly desirable. At least 5 years prior industrial experience in immunoassay development, manufacture and/or testing is required. This position requires an individual with demonstrated management capabilities, a broad base of technical knowledge, and highly developed negotiating skills.

### SR. RESEARCH SCIENTIST Protein Analysis/Modification

This individual will be responsible for protein modifications, coupling of haptens with proteins and development of biochemical methods for analysis of proteins and organic molecules. A background in protein chemistry, organic synthesis, instrumental analysis and chromatographic separations is needed as well as strong interpersonal and oral and written communication skills. Candidates must have a Ph.D. in bio-organic chemistry or analytical biochemistry and preferably postdoctoral or industrial experience. Knowledge of immunology and EIA would be helpful though not required.

The Dade Division is based on the beautiful east coast of south Florida where, in addition to paying no state or local income taxes, you will enjoy a year-round quality lifestyle which attracts new residents and visitors from around the world. As a member of the Baxter R&D team, you will not only enjoy an outstanding professional and scientific environment and exceptional career growth opportunity, you'll also receive a very competitive salary and benefits package.

For consideration for any of the above positions, please send your resume along with salary history in confidence to: Professional Staffing, Baxter Healthcare Corporation, Dade Division, P.O. Box 140520, Coral Gables, FL 33114. Equal Opportunity Employer.

## Baxter

## POSITIONS OPEN

### DIRECTOR CLINICAL HISTOCOMPATIBILITY AND IMMUNOGENETICS PROGRAM

We are seeking an M.D. to provide medical/scientific direction for a large, active Histocompatibility and Immunogenetics (H & I) Laboratory, act as liaison between this laboratory and transplant surgeons and physicians, and pursue clinical research relevant to transplantation. Experience in a clinical HLA program, transplantation program and extensive knowledge of histocompatibility and immunogenetics as applied clinically to transplantation, disease association, immunology, and transfusion medicine are desired. Good communication skills and the ability to interact with a wide range of physicians, researchers, and technologists are required. Ability to compete for research grants and contracts in the area of histocompatibility and immunology is highly desirable. Opportunity to work with nationally and internationally recognized investigators working in immunology and immunogenetics.

Send curriculum vitae and other particulars to:

David D. Eckels, Ph.D.  
Senior Investigator  
Immunogenetics Research Section  
Scientific Director, H & I Laboratory  
The Blood Center of Southeastern Wisconsin  
1701 West Wisconsin Avenue  
Milwaukee, WI 53233  
*Equal Opportunity Employer*

### DIRECTOR MACROMOLECULAR ANALYSIS FACILITY LOYOLA UNIVERSITY STRITCH SCHOOL OF MEDICINE

Loyola University of Chicago Stritch School of Medicine invites applications for a position of Director of the Macromolecular Analysis Facility. The Director will be responsible for supervising operation, administration, and maintenance of a newly created interdisciplinary research facility containing: a peptide synthesizer, protein sequencer and oligonucleotide synthesizer. The successful candidate should have expertise in peptide chemistry and familiarity with automated protein sequence analysis and amino acid analysis. Experience in oligonucleotide synthesis and DNA sequence analysis are desirable. Send résumé and the names of three references to: Dr. G. Sullivan Read, Macromolecular Facility Search Committee, Loyola University of Chicago, Stritch School of Medicine, c/o Sherron Glenn, Human Resources Manager, 2160 South First Avenue, Maywood, IL 60153. *Equal Employment Opportunity/M/F.*

### DIRECTOR DIVISION OF TOXICOLOGY DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

The Department of Pharmacology and Toxicology of the University of Arkansas for Medical Sciences is conducting a search to identify candidates for the position of Director of the Division of Toxicology. A successful candidate will have an earned doctoral degree with active research interests in pharmacology, toxicology, or occupational medicine.

The Director of the Division of Toxicology will be responsible for administering graduate programs in toxicology and industrial hygiene. Other educational responsibilities include continuing education in toxicology for health professionals.

The director is expected to have and maintain an active research program and should have demonstrated ability to compete successfully for research support.

*The University of Arkansas is an Equal Opportunity Employer. Women and minority candidates are encouraged to apply.*

Submit curriculum vitae, summary of research and administrative experience, and the names of at least three references to:

Dr. Donald R. Mattison  
Department of Obstetrics and Gynecology  
University of Arkansas for Medical Sciences  
4301 West Markham, Slot 518  
Little Rock, AR 72206

## POSITIONS OPEN

### DIRECTOR ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY CINCINNATI, OHIO (EMSL-CIN) \$65,994 to \$71,910

U.S. Environmental Protection Agency is seeking highly qualified candidates for the position of Director, EMSL-CIN. The EMSL-CIN, a component of the Office of Research and Development, is responsible for the planning, management, development and implementation of multi-media (water, toxics, and hazardous wastes) research programs; the development of monitoring data and information processing and sophisticated instrumental analytical systems; the development and operation of national pollution monitoring quality assurance program for water and waste-water systems; the development of methods for the concentration, recovery and identification of chemical, physical, and biological pollutants in biotechnology research programs.

To qualify, applicants must have a bachelor's or higher degree in either biological or physical sciences or engineering that included training in organic or inorganic chemistry or chemical engineering and statistics and must meet the technical and executive qualifications described in the Vacancy Announcement. Call/write: Edna Morse, EPA, SES and Executive Resources Unit, PM-224, 401 M Street, SW, Washington, DC 20460. Telephone: 202-382-3328, for the Vacancy Announcement. Applications must be postmarked by 30 April 1988. *EPA is an Equal Employment Opportunity Employer.*

### FACULTY POSITION CULLEN EYE INSTITUTE BAYLOR COLLEGE OF MEDICINE

Applications are invited for a faculty position in a major eye institute for a scientist with an interest in the mechanisms regulating tissue growth. Qualified applicants must have a Ph.D. or M.D. degree with strong postdoctoral experience in basic research. Successful applicant will be expected to establish a vigorous independent research program in one of the following areas: (i) intraocular vascular proliferation, (ii) pigment epithelial cell proliferation and migration; or (iii) trophic factors, which would complement other research programs in vision and ophthalmology already underway in the department. Possibilities for joint appointments in an appropriate basic science department or graduate program in the college are desirable and encouraged. Rank and salary will be commensurate with experience and qualifications. Send curriculum vitae, a statement of research interest and names with addresses and telephone numbers of at least three references to:

Dr. Joe G. Hollyfield  
Chairman, Search Committee  
Cullen Eye Institute  
Baylor College of Medicine  
Houston, TX 77030

### TWO FACULTY POSITIONS IN NUTRITION

Assistant professor/associate professor, Department of Food Science and Nutrition, University of Minnesota, St. Paul. Tenure-track or tenured.

Develop independent research programs in nutrition science or clinical nutrition; teach and advise at both graduate and undergraduate levels; participate in cooperative department programs; research and development helpful in one position; ability to attract external research funding essential; postdoctoral and teaching experiences preferred; demonstrated ability to communicate and publish research findings in nutrition science preferred.

Must have Ph.D. in nutrition or related area. Competitive salary and attractive benefits.

Apply by 10 May 1988 to: Dennis A. Savaiano, Chair, Search Committee, Department of Food Science and Nutrition, University of Minnesota, 1334 Eckles Avenue, St. Paul, MN 55108. Include detailed curriculum vitae with publications list, graduate school transcripts, and names and addresses of at least three references. Starting date on or before 1 September 1988 preferred.

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

## POSITIONS OPEN

### FACULTY POSITION IN MOLECULAR BIOLOGY/PROTEIN STRUCTURE DUKE UNIVERSITY

The Department of Microbiology and Immunology, Duke University Medical Center, invites applications for a faculty position at an academic rank of assistant or associate professor, in the area of molecular biology with expertise in protein structure and function. Applicants are expected to develop a strong independent research program with external funding and should have a strong commitment to graduate education. Adequate space and start-up funds are available. Interested persons should, by 16 May 1988, send their curriculum vitae and bibliography, the names of three references, and a brief description of future research interests and plans to: Dr. W. K. Joklik, Chairman, Department of Microbiology and Immunology, P.O. Box 3020, Duke University Medical Center, Durham, NC 27710.

*Duke University is an Affirmative Action/Equal Opportunity Employer.*

### OPPORTUNITY TO HEAD AND DEVELOP CLINICAL RESEARCH UNIT

A full-time position as Head of the Clinical Research Unit is being offered to candidates at the M.D., Ph.D. or D.P.H. level. Candidates should be established and recognized clinical researchers who will take responsibility for setting the directions, developing objectives, and recruiting faculty and staff for a unique new department doing clinical research on eye diseases at the Eye Research Institute. In addition to developing their own areas of scientific investigation, it is anticipated that members of the new unit will forge strong interactions with other research activities at the Institute. This position is designed to maximize clinical research talents without the traditional time-consuming clinical responsibilities.

Send curriculum vitae to:

Arthur H. Neufeld, Ph.D.  
Director of Research  
Eye Research Institute  
20 Staniford Street  
Boston, MA 02114

*Equal Opportunity/Affirmative Action Employer  
M/F/V/H and others.*

### MANAGER, QUALITY ASSURANCE

Ambico, Inc., a rapidly growing veterinary biotechnology company, located just outside Des Moines, Iowa, is seeking a manager for its Quality Assurance Department. We will consider candidates with a Ph.D., D.V.M., or M.S. degree and work experience in tissue culture, virology, bacteriology, enzyme assays, and USDA regulatory procedures. Responsibilities will also include certain developmental activities in collaboration with our Research Department. This is an excellent growth opportunity for the right individual. Please send résumé to: Human Resources, Ambico, Inc., Box 522, Dallas Center, IA 50063.

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

**MATHEMATICIAN, GS-12.** Applications are invited for a mathematician to perform collaborative research on methodology development to assess nutritional status. Position is located at the Western Human Nutrition Research Center, San Francisco, California. Ph.D. in statistics—mathematics and knowledge of nutrition, epidemiology, and biostatistics preferred. Starting salary is \$33,218. *Must be U.S. citizen.* Information on the position may be obtained by calling: 415-556-9697, or writing to: USDA, ARS, Western Human Nutrition Research Center, P.O. Box 29997, Presidio of San Francisco, CA 94129. Information on application procedures may be obtained by contacting: Rita Millard, ARS, Personnel Division, Beltsville, MD 20705, or call: 301-344-3138. Inquiries in response to this ad should be marked 80013. *An Equal Opportunity Employer.*

The University of Iowa College of Medicine is seeking to recruit a distinguished scientist with a record of scientific leadership to fill an **ENDOWED CHAIR IN ONCOLOGY AND MOLECULAR BIOLOGY**. These areas are broadly defined in the context of growth and development and may include individuals whose work is not normally viewed as restricted to cancer. This position carries with it a substantial commitment in research support and space. The salary will be commensurate with experience. Please address letters of interest or nomination to:

**Dr. P. Michael Conn**  
**Search Committee Chairman**  
**Professor and Head of Pharmacology**  
**2-454 Bowen Science Building**  
**The University of Iowa College of Medicine**  
**Iowa City, IA 52242**

*The University of Iowa is an equal opportunity affirmative action employer.*

**RORER CENTRAL RESEARCH**, a subsidiary of RORER GROUP, INC. has three openings. Send resume to LINDA STEWART, Personnel Department, Rorer Central Research, Inc., 640 Allendale Road, King of Prussia, PA 19406. (NO PHONE CALLS PLEASE.) Indicate Job Number you are responding to:

#### **JOB NO. 1**

**ASSOCIATE SCIENTIST** to perform research and experiments to generate and utilize monoclonal antibodies against a cell surface receptor called neu-proto-oncogene product utilizing immunological tools to explore the mechanisms of receptor action and the identification of the putative ligand of this receptor. MSci in Biology + 2 years experience as Research Scientist required. Previous experience must include hands-on experience producing monoclonal antibodies for research and diagnosis and utilizing biochemical methods such as cell particle and protein fractionalization, gel filtration and ion exchange chromatography.

**SALARY: 25K to 30K**

#### **JOB NO. 2**

**RESEARCH SCIENTIST** to permit bio-analytical chemical research related to drug disposition, including method development of drug analysis in biological fluids to support preclinical and clinical studies. Separate and identify metabolites or the degradation products of drugs in biological systems. Supervise and train junior chemists and laboratory technicians. PhD in Chemistry + 1 year experience as a Research Scientist required. Previous experience must include one-year's hands-on experience developing methods of drug analysis utilizing HPLC and mass spectroscopy system, SFG system.

**SALARY: 35K to 42K**

#### **JOB NO. 3**

**SENIOR RESEARCH SCIENTIST** to perform research and experiments in order to determine ways in which oxygen delivery from red blood cells can be increased into the tissues so that a drug can be developed which will decrease the affinity of oxygen for hemoglobin at the capillary level for use by human heart patients. PhD in Biochemistry + 2 years as Research scientist required. Previous experience must include hands-on research experience utilizing various chromatographic techniques, radioactive sequencing, HPLC and molecular cloning techniques.

**SALARY: 38K to 48K**

ALL JOBS ARE LOCATED AT OUR KING OF PRUSSIA RESEARCH FACILITY. HOURS ARE 40 HOUR PER WEEK, M—F, 8:15 A.M. — 4:45 P.M. Salary offered is contingent upon background and experience. Principals only need apply. Resumes must be received no later than April 29, 1988.  
*Equal Opportunity Employer* M/F H/V

*World leader in animal health products is seeking scientists.*

#### **ASSISTANT SCIENTIST**

Assistant Scientist needed to work on the development of innovative vaccines for companion animals.

This position requires a BS or MS and experience in the following areas; viral vaccine development; serological, ELISA and CMI assays; design and performance of animal experiments.

#### **SCIENTIST**

Scientist is needed to work on vaccines for retrovirus infections.

In addition to a sound knowledge of retrovirus biology, the necessary skills for this work will include the following; electrophoresis and blot/probe techniques; immunological assays (serological, ELISA, CMI, RIP, Western blots); vaccine development; design, performance and analysis of animal experiments.

If your experience includes a significant number of these techniques, please forward your resume to:

Human Resource Director



**SALSBURY  
 LABORATORIES, INC.**  
 2000 Rockford Road  
 Charles City, IA 50616

*An Equal Opportunity Employer*

## **PhDs • PHARMACOLOGY • PHYSIOLOGY**

**Your scientific expertise is the foundation  
 for a strong future**

Hoechst-Roussel Pharmaceuticals Inc., fast-growing subsidiary of Hoechst Celanese Corporation, a \$4.6 billion division of one of the world's leading producers of chemicals and pharmaceuticals, has several newly created opportunities for published Pharmacologists or Physiologists. Primary responsibilities will entail developing contacts within medical institutions, universities, teaching hospitals and government research groups. In addition, you will prepare auxiliary technical materials and deliver technical updates/training to field sales personnel.

Ideal candidates will possess a BS in Pharmacy, a PhD in Physiology or Pharmacology, and 2-3 years teaching experience at the university level.

These highly visible positions will provide direct contact with prominent figures in the medical field and pharmaceutical industry.

We offer a superb compensation package, including an excellent salary plus expense account, a company car and outstanding company benefits. Positions are available in New York City and Los Angeles.

Send curriculum vitae with current earnings to Mr. Gary Kowalski, Hoechst-Roussel Pharmaceuticals Inc., Route 202-206 North, Somerville, New Jersey 08876. An affirmative action employer M/F/H.

# **Hoechst**





## SENIOR SCIENTIST NEPHROTOXICITY

The LILLY RESEARCH LABORATORIES, a Division of Eli Lilly and Company, is seeking a creative and highly motivated scientist to direct a research program in nephrotoxicity within the Department of Biochemical Toxicology.

Qualified candidates should have a doctoral degree in toxicology, pharmacology, or physiology with experience in nephrotoxicity research; strong *in vitro* and *in vivo* skills are required. The primary responsibilities will be to evaluate the nephrotoxic potential of new therapeutic agents, to investigate mechanisms of drug-induced nephrotoxicity, and to contribute to the drug development process. Post-doctoral training is preferable, but not essential.

The position provides an excellent research and development opportunity within a stimulating multi-disciplinary environment. Qualified applicants should send detailed curriculum vitae to:



John W. Crooks  
Manager, College Relations  
(SNP)  
Eli Lilly and Company  
Lilly Corporate Center  
Indianapolis, Indiana 46285  
Equal Opportunity Employer

## Sr. Scientists Insect Research

The Basic Insect Biology Department of Zoecon Research Institute, a division of Sandoz Crop Protection Corporation, is seeking experienced Ph.D. scientists to work within an interdisciplinary research team studying insect neuropeptide systems

### Work areas include:

1. Enzymology of post-translational processing of proteins to active neuropeptides & hormone receptor systems.
2. Animal virology & genetic engineering of insect viruses.

To apply for this position, please send curriculum vitae and the names of three references to:

Sandoz Crop Protection Corporation  
Zoecon Research Institute  
Human Resources Department  
975 California Avenue  
Palo Alto, CA 94304-1104  
AA/EOE



## Molecular Virologists

The Department of Anti-infectives of Smith Kline & French Laboratories, located in suburban Philadelphia, Pennsylvania, is seeking outstanding senior scientists to expand its current research programs in Molecular Virology. The individuals will be involved in a multidisciplinary research effort focused on mechanistic studies of viral replication and pathogenesis directed toward the discovery of novel antiviral strategies including therapies for AIDS.

Successful candidates are required to have:

- a Ph.D. in animal virology with at least 4 years postdoctoral experience in virology or molecular virology.
- expertise and/or practical knowledge in the study of viral replication and pathogenesis in tissue culture or animal models.
- a strong publication record.
- excellent written and oral communication skills.
- ability to interact with a multidisciplinary research team.

We offer excellent compensation and benefits as well as an attractive relocation policy. For confidential consideration, send your C.V. and names of three references to Robert F. Obst, Manager, Personnel Relations, R0126, 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

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HERE**

## HAZARDOUS SUBSTANCE RESEARCH CENTERS

The Environmental Protection Agency is seeking applications for the establishment of five university-based Centers to conduct research and training relating to the manufacture, use, transportation, disposal and management of hazardous substances.

For further information concerning a general description of the program, eligibility, submission requirements, review procedures, closing date for response and other information pertaining to the program, contact:

**Karen Morehouse**  
**US Environmental Protection Agency (RD-675)**  
**401 M St., SW**  
**Washington, DC 20460**  
**Phone-(202) 382-5750**

OR

**Robert Papetti**  
**US Environmental Protection Agency (RD-675)**  
**401 M St., SW**  
**Washington, DC 20460**  
**Phone-(202) 382-7473**



The University  
of  
British Columbia

## BIOTECHNOLOGY LABORATORY

Graduate Student and Post-Doctoral Teaching Assistantships  
in the Biotechnology Laboratory

The Biotechnology Laboratory, under the directorship of Dr. Michael Smith, is a new venture of the University of British Columbia. It is designed to build bridges in research and teaching in biotechnology between basic and applied sciences. Emphasis is on the use of molecular genetics to solve major problems in forest, plant, animal and human biology and infectious disease, on fermentation and process engineering applied to mammalian cell studies and on protein structure-function relationships.

Prospective graduate students should have undergraduate degrees in the life, physical or engineering sciences and prospective post-doctoral fellows should have graduate training in these areas.

Stipends will start at \$11,795 for graduate students and at \$19,860 for post-doctoral fellows. Positions will be available in September, 1988.

Submit applications by **May 31, 1988**, including curriculum vitae, complete academic transcripts and the names, addresses and phone numbers of three referees who are competent to evaluate your scientific potential to: **Mrs. Darlene Crowe, Supervisor, Administration, Biotechnology Laboratory, The University of British Columbia, #238-6174 University Boulevard, Vancouver, B.C., CANADA V6T 1W5.**

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

## Postdoctoral Positions

### One-Year Assignment with Possible Extension

### Join a Research Team Where Experience and Knowledge are Recognized and Rewarded.

CIBA-GEIGY Corporation is an international corporation respected throughout the world for its commitment to the research and development of pharmaceuticals. We currently seek qualified candidates to join us at our Summit, NJ headquarters and participate in the discovery and development of drugs useful in the therapy and prevention of human disease.

#### Bio/NMR

Seeking a PhD in Biology or Biochemistry with experience in the area of heart perfusion to perform valuable research in the area of Biological NMR studies as they relate to the pharmaceuticals industry. Interacting with the Biology staff, you'll support the development of a vigorous Bio/NMR program. A strong background in NMR applications is desirable.

You'll have access to a fully equipped electronics laboratory dedicated to the NMR group, with the opportunity to participate in probe design. Instrumentation includes a Varian Wide Bore XL-400 NMR spectrometer and a Bruker Wide

Bore AM-300 NMR spectrometer with a 31P surface coil probe. Please respond to Dept. NMR.

#### Inflammation/Osteoarthritis Research

Participate in a collaborative project between I/OR and Dr. Jeff Stock, Department of Molecular Biology, Princeton University. This project involves the characterization of transcriptional and methylation events associated with human leukocyte activations. A PhD in Biochemistry or Molecular Biology is required, with expertise in cell biology and eukaryotic gene expression preferred. Please respond to Dept. IOR.

CIBA-GEIGY offers competitive salaries and full benefit packages. For consideration, please submit resume, complete with salary requirements, position of interest and appropriate department number, in confidence, to: Staffing Center, CIBA-GEIGY Corporation, The Pharmaceuticals Division, 556 Morris Avenue, Summit, NJ 07901. We are an equal opportunity employer m/f/h/v.

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# CIBA-GEIGY

## POSITIONS OPEN

### INVESTIGATIVE ENDOSCOPIST

This position is at the level of assistant professor of medicine and is for the directorship of the gastroenterology laboratory at Parkland Memorial Hospital, Dallas. Applicants must be fully trained in internal medicine/gastroenterology, and must have extensive experience in routine endoscopic procedures such as esophagogastroduodenoscopy and colonoscopy. In addition, must have extensive experience in diagnostic and advanced therapeutic ERCP procedures. Must be experienced in stone removal and stent placement in common duct and pancreatic duct. This individual is expected to take the lead in developing major clinical research programs related to gallstone dissolution and new therapies for treatment of common duct and pancreatic cancer. Submit letter of application, summary of research interests, clinical qualifications, curriculum vitae and names of three references to: **Dr. John M. Dietsch, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235. The University of Texas is an Equal Opportunity/Affirmative Action Employer.**

### MAMMALIAN MOLECULAR GENETICIST

The Department of Biological Science of Florida State University invites applications for a 12-month non-tenure-track permanent position in a biomedical technology research program related to generalized techniques for analyzing mammalian genomes. Candidates should have experience in gene mapping, cloning/manipulation of large genomic DNA segments, or DNA enzymology. Recent Ph.D. required, postdoctoral experience in these fields is helpful. Starting salary is \$30,000 to \$35,000 per 12 months, depending upon qualifications. Position available immediately; all applications must be received by 31 May 1988. Submit curriculum vitae and names and addresses of three references to: **Dr. John Hozier, Department of Biological Science, NRB 312, Florida State University, Tallahassee, FL 32306-3043.**

*Affirmative Action/Equal Opportunity Employer*

**MOLECULAR BIOLOGIST.** The American Health Foundation offers an outstanding career opportunity for a molecular biologist interested in the role of oncogene activation in carcinogenesis. We are seeking an individual with 2 years of postdoctoral experience who is interested in developing a grant-supported program. We will provide 5 years of seed money, competitive salary and an excellent environment for collaborative studies in mechanisms of chemical carcinogenesis. Send résumé to: **Dr. Stephen Hecht, Director of Research, American Health Foundation, 1 Dana Road, Valhalla, NY 10595. An Equal Opportunity Employer M/F/V/H.**

### MOLECULAR GENETICIST

Applications are invited for a research faculty position with excellent laboratory facilities in the cellular and molecular biology graduate program in the Graduate School at Howard University. We seek candidates who have a Ph.D. or M.D. degree, a record of accomplishments in research in the area of molecular genetics, and exceptional potential for establishing an independent program of research, and assisting in the teaching of core courses in molecular genetics. Applicants are invited to submit curriculum vitae, representative publications, a statement of research interests and to arrange to have three letters of recommendation sent to: **Dr. Lee V. Leak, Chairman, Search Committee, Department of Anatomy, College of Medicine, Howard University, 520 W Street N.W., Washington, D.C. 20059.**

Applications should be submitted before 30 April 1988. *Howard University is an Equal Opportunity Employer.*

**NUTRITIONAL BIOCHEMISTRY** full-time research position **LABORATORY SCIENTIST** in the nutrition laboratory is available. Applicant must have knowledge and desire to conduct research in the area of nutrition and metabolism, recent Ph.D. graduates or lower degrees with research experience will be considered. Starting salary is \$21,409 per year, candidates should apply by 15 May 1988, by sending a letter of application, three letters of references and curriculum vitae to: **The Director of Personnel, University of Maryland Eastern Shore, Princess Anne, MD 21853-1299.**

*Equal Employment Opportunity/Affirmative Action*

## POSITIONS OPEN

**MOLECULAR BIOLOGIST** to conduct studies on the molecular mechanism involved in neoplastic development. Must have at least 3 years of postdoctoral experience in the field of DNA repair in prokaryotic and mammalian cells. Extensive experience with expression vectors (both prokaryotic and eukaryotic, including retroviral vector) and transcriptional regulatory sequences (enhancers, promoters, transcription terminators, etc.) is required. Salary commensurate with experience. Send curriculum vitae to: **The Squibb Institute for Medical Research, Human Resources Department 500, P.O. Box 4000, Princeton, NJ 08543. An Equal Opportunity Employer.**

### TWO POSTDOCTORAL FELLOWS

Required for studies of the synthesis, structure, polymerization, and localization of cartilage matrix proteins, with emphasis on the collagens. Multidisciplinary group provides expertise in biochemistry, biophysical chemistry, primary structure, monoclonal antibody production, immunochemistry, and electron microscopy. Position requires strong background in either protein purification or protein macromolecular assembly. Experience with connective tissue proteins highly desirable—available 1 April 1988, and 1 June 1988.

Please send curriculum vitae to:

**Dr. Nicholas Morris  
Department of Biochemistry  
Oregon Health Sciences University  
c/o Shriners Hospital  
3101 S.W. Sam Jackson Park Road  
Portland, OR 97201**

### POSTDOCTORAL FELLOWSHIP IN PULMONARY MICROCIRCULATORY PHYSIOLOGY

A position is available from June 1988 for the study of macromolecular transport in single pulmonary microvessels, by the micropuncture and intra-vital microscopy techniques. Applicants should have an advanced degree in the medical or the engineering sciences. Training in the following areas is desirable: microvascular biology, transport biophysics, protein chemistry, cell physiology, videometry. Send letters of reference and curriculum vitae to: **Jahar Bhattacharya, M.D., D. Phil., Departments of Physiology and Medicine, College of Physicians and Surgeons, Columbia University and St. Luke's-Roosevelt Hospital Center, 428 West 59th Street, New York, NY 10019.**

*An Equal Opportunity Employer M/F.*

**POSTDOCTORAL POSITIONS** at the Dana-Farber Cancer Institute, Harvard Medical School available immediately to develop experimental therapy for melanoma. Areas of concern will include: drug development, biology/biochemistry of melanoma including studies of oncogene involvement in melanoma, and the molecular biology of cellular replication. Experience in one or more of the following areas is desirable: biochemistry, cell biology, gene cloning, and pharmacology. Possible joint appointment at Harvard Medical School. Salary: approximately \$25,000 per year plus benefits. Positions can be renewed for up to 3 years. Send curriculum vitae, names and addresses of three references to: **Dr. Michael Wick, Associate Professor, Department of Dermatology and Division of Medicine, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115. An Equal Opportunity Employer.**

**POSTDOCTORAL POSITIONS** available to join an NIH-funded, highly competitive laboratory working on molecular aspects of herpes simplex virus latency and pathogenesis. Investigation focuses on studying the genes involved in the regulation of HSV-1 latency and reactivation and elucidating their modes of action. Other research projects include (i) baculovirus expression of HSV-1 glycoproteins and (ii) HSV-1 vaccine studies. Starting dates: immediately and summer/fall of 1988. Candidates should have a Ph.D. in the area of biological science; emphasis in molecular biology and/or virology preferred but not essential. Highly competitive salary commensurate with experience and productivity. Two or 3-year appointments are available. Submit curriculum vitae and names, addresses and telephone numbers of three individuals to be contacted as references to: **Steven L. Wechsler, Ph.D., Virology Research Laboratory, Cedars-Sinai Medical Center/UCLA School of Medicine, Halper Building, Room 111, 8700 Beverly Boulevard, Los Angeles, CA 90048.**

## POSITIONS OPEN

### POSTDOCTORAL POSITION SECTION ON VIRUSES AND CELLULAR BIOLOGY NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT NATIONAL INSTITUTES OF HEALTH

Applications are invited for a postdoctoral (Ph.D. or M.D.) position, available immediately, for in vivo and in vitro studies on molecular mechanisms of DNA replication, repair, and mutagenesis in mammalian cells.

A background in molecular biology or biochemistry is required, and preference will be given to candidates with experience in nucleic acid and enzyme chemistry. Salary will be commensurate with experience and qualifications.

Please send curriculum vitae, the names of three references, and a brief summary of research accomplishments and goals to:

**Dr. Kathleen Dixon  
Section on Viruses and Cellular Biology  
NIH, NICHD  
Building 6, Room 1A15  
9000 Rockville Pike  
Bethesda, MD 20892  
*An Equal Opportunity Employer***

### POSTDOCTORAL POSITION IN EUKARYOTIC MOLECULAR BIOLOGY

Position available immediately. Experience in molecular biology/genetics is essential. U.S. citizenship required. Please submit curriculum vitae, names, and addresses of three references by 15 May 1988 to: **Dr. Thomas Chen, Center of Marine Biotechnology, 600 East Lombard Street, Baltimore, MD 21202. Equal Opportunity Employer/Affirmative Action.**

**POSTDOCTORAL POSITION IN MOLECULAR NEUROENDOCRINOLOGY.** A position is available for the study of a proenkephalin processing enzyme (BBRC 106, 186). Projects will involve enzyme purification, use of inhibitors, and the investigation of enzyme specificity. Opportunity exists for collaborative research designing recombinant substrates for this enzyme through the use of site-specific mutagenesis/expression vector systems. Facilities, scientific environment, and funding for these studies are excellent. Position is available immediately, starting date negotiable, salary is competitive. Send curriculum vitae and names, address, and telephone numbers of three references to: **Dr. Iris Lindberg, Department of Biochemistry and Molecular Biology, Louisiana State University Medical Center, 1901 Perdido Street, New Orleans, LA 70112. Telephone: 504-568-4799. Louisiana State University Medical Center is an Equal Employment Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITIONS

Postdoctoral positions are available immediately to carry out research in the area of cytokines and tumor biology. Specific studies include elucidating the mechanisms involved in cytokine regulation of normal and leukemic hematopoiesis, and in the use of cytokines to enhance chemotherapeutic efficacy. Excellent opportunity for growth, development and collaboration in active research group within an expanding cancer research center. Send curriculum vitae and names of three references to: **Dr. Philip Furmanski, Scientific Director, AMC Cancer Research Center, 1600 Pierce Street, Denver, CO 80214. AMC is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITIONS** at the National Heart, Lung, and Blood Institute, National Institutes of Health, Public Health Service are available starting 1 July 1988 to study the biochemistry and physiology of the 70-kD class of heat-shock proteins in yeast. The focus of the laboratory is on the function of these proteins in the heat shock phenomenon, in translocating newly synthesized proteins through the endoplasmic reticulum, and in the uncoating of clathrin from coated vesicles during endocytosis. These positions have a salary range of \$20,000 to \$37,997 per annum depending on experience, and are located on the National Institutes of Health (NIH) campus in Bethesda, Maryland. Please send curriculum vitae and three letters of recommendation to: **Dr. Lois Greene, Laboratory of Cell Biology, National Heart, Lung, and Blood Institute, 9000 Rockville Pike, Building 3, Room B1-22, Bethesda, MD 20892. An Equal Opportunity Employer.**

## Research Scientist / Research Associate

Positions are available for Neuroscientist or Bioengineer in a newly developed multidisciplinary laboratory to study novel actions of lasers on nervous tissue. Research topics range from applied neurosurgical applications of state-of-the-art lasers, to more fundamental aspects of laser actions on synaptic transmission and nervous conduction. Some experience with laser applications would be helpful.

Salary is negotiable. Please send curriculum vitae and the names of three references to the **Director of Research, Human Resources Department.**



Located in Columbus Hospital  
2520 North Laveview Avenue  
Chicago, IL 60614

EOE M/F/H

## Associate Research Scientist MS/BS

### Cardiovascular Pharmacology

OUR WALLINGFORD, CONNECTICUT WORLD HEADQUARTERS is a unique multi-million dollar setting that fosters professional achievement and interdisciplinary cooperation.

This Associate Research Scientist position in our Cardiovascular Pharmacology department requires 2-4 years laboratory experience in the methodologies associated with cardiovascular drug evaluation, including hemodynamics and myocardial function. Expertise in in vivo systems, computers and statistics is highly desirable.

BRISTOL-MYERS OFFERS sustained growth, highly competitive salaries, extensive benefits and career support. Our countryside location is convenient to New Haven and Hartford, Connecticut, New York City and New England. Please send resume with salary history to: **BRISTOL-MYERS COMPANY, Pharmaceutical Research & Development Division, Attn: HR6, P.O. Box 5100, 5 Research Parkway, Wallingford, CT 06492.**



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## Bioanalytical Chemist

The Department of Safety Assessment at the Merck Sharp & Dohme Research Laboratories is seeking a Bioanalytical Chemist experienced in HPLC, GLC and RIA. Primary responsibilities include methodology development for the analysis of enzyme systems and endogenous biochemical markers in biological systems leading to an understanding of organ toxicity mechanisms and species differences in toxicity.

The successful candidate will have an MS, or a BS with two or more years of experience in Toxicology, Biochemistry, Pharmacology, or the equivalent. Expertise in enzyme assay development (UV spectroscopy and radiometric methods) and experience with HPLC and GLC is desirable. In addition, good oral and written communication skills are imperative.

MSDRL is the world leader in pharmaceutical research and development offering an excellent work environment, salary and benefits.

Please forward your resume to:

Michele Dauber - W42-2

**Merck Sharp & Dohme  
Research Laboratories**  
West Point, PA 19486

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**Merck & Co., Inc.**



## RESEARCH FELLOW \$28,629-\$41,861 DIVISION OF ATMOSPHERIC RESEARCH, ASPENDALE, VIC. 3195

**FIELD:** Climate Dynamics

**THE DIVISION:** The Division of Atmospheric Research maintains broadly-based research programs in climate dynamics, global and local air pollution studies, satellite and remote sensing, and atmospheric physics and chemistry.

**THE PROGRAM:** The Large Scale Dynamics program is concerned with regional and global scale climate including the mechanisms underlying climate variability and change, and the impact of climate change, including studies of the GREENHOUSE effect and the predictability of Australian rainfall variations. The Division has a suite of atmospheric models available and access to CSIRONET and CSIRO's Cyber 205 computer.

**THE JOB:** To undertake research into climatic changes, and the dynamical and physical processes involved, due to increasing greenhouse gases using large scale models of the atmosphere.

**THE PERSON:** A Ph.D. or equivalent qualification in the physical sciences with demonstrated research ability.

**CONDITIONS:** Appointment will be for a term of 3 years with Australian Government Superannuation benefits available.

**MORE INFORMATION:** Prospective applicants are invited to telephone Dr. Jorgen Frederikson on (03) 586 7666 for further information. Dr. Frederikson can also provide a copy of the detailed job description and selection criteria.

**APPLICATIONS:** Applications should be submitted by 6 May 1988 and should quote reference number A1148. They should be framed against the selection criteria and provide details of relevant personal particulars, including qualifications and experience. Applications should nominate at least two professional referees, and address their applications to:

The Chief CSIRO,  
Division of Atmospheric Research  
Private Bag No. 1  
MORDIALLOC VIC. 3195.

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

AT 88/04

## POSITIONS OPEN

### POSTDOCTORAL POSITION— CARCINOGENESIS

Multiyear position available June 1988, in a group using cell and molecular biologic approaches to characterize 06-methyl guanine transmethylease. Experience in protein purification preferred. Send curriculum vitae and names of three references to: **Craig W. Beattie, Ph.D., Division of Surgical Oncology (m/c 820), University of Illinois College of Medicine, 840 South Wood Street, Chicago, IL 60612.**

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

**POSTDOCTORAL POSITIONS** are available to study the molecular basis of T lymphocyte activation and growth. Projects include analysis of the structure/function of interleukin 2 receptor subunits and the role of Ly-6 alloantigens in T cell activation. Prior experience in cell surface protein chemistry or recombinant DNA technology is preferred. Send curriculum vitae and names of three references to: **Dr. Thomas Malek, Department of Microbiology and Immunology (R138), University of Miami School of Medicine, Miami, FL 33101.**

### POSTDOCTORAL POSITIONS

Staff fellow and/or visiting fellow/associate positions are available at the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Emphasis is on studies of neuropeptide synthesis and action, and G-protein structure and function, in brain and in cell cultures. Experience in protein chemistry or molecular biology, including work with RNA, and/or autoradiography and in situ hybridization, is required. Salary range is from \$21,000 to \$32,500, commensurate with relevant postdoctoral experience. *NIAAA is an Equal Opportunity Employer.*

Send curriculum vitae and two letters of reference to:

**Dr. Paula Hoffman  
National Institute on Alcohol Abuse and Alcoholism  
NIH, Building 10, Room 3C103  
Bethesda, MD 20892  
Telephone: 301-443-1073**

### POSTDOCTORAL RESEARCH ASSOCIATE—

A postdoctoral position to isolate, identify, and synthesize, certain aroma active hop oil constituents is available. A Ph.D. in organic chemistry or physical organic chemistry with research experience in the chromatographic separation of complex mixtures of organic compounds and their identification by modern analytical methods is required. Salary range \$20,000 to \$22,000, depending on experience and qualifications. Send curriculum vitae and three letters of recommendation by 6 May 1988 to: **Dr. Max L. Deinzer, Department of Agricultural Chemistry, Oregon State University (OSU), Corvallis, OR 97331.** *OSU is an Affirmative Action/Equal Opportunity Employer and Complies with Section 504 of the Rehabilitation Act of 1973. OSU has a policy of being responsive to the needs of dual-career couples.*

**POSTDOCTORAL/RESEARCH ASSOCIATE POSITION** available immediately to work with a research group to develop AIDS vaccines. Specific tasks involve the construction and testing of recombinant vaccines against simian immunodeficiency virus (SIV). Prospect of long-term funding excellent. Experience in molecular biology and virology desired. Please send curriculum vitae and names of three references to: **Dr. Shiu-Lok Hu, I-321 Health Sciences Building, SJ-50, University of Washington, Seattle, WA 98195.** Telephone: 206-543-4040.

### POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS

Available now to investigate mechanism of regulation of lipoprotein lipase and hepatic lipase protein synthesis and catalytic activities. Cell culture (liver, adipocyte, endothelial), molecular biology, immunochemical (monoclonal antibodies), and recombinant DNA technique approaches are employed. Applicants should have training in biochemistry or molecular biology. Experience with recombinant DNA desirable. Send résumé and names of three references to: **Dr. Andre Bensadoun, Division of Biological Sciences and Nutritional Biochemistry, 242 Savage Hall, Cornell University, Ithaca, NY 14853.**

## POST DOCTORAL RESEARCH FELLOWSHIP IN MOLECULAR DIAGNOSTICS

### Atlanta Area

Dade Diagnostics Division of Fortune 100 Baxter Healthcare Corporation, in collaboration with the Centers for Disease Control, is pleased to announce an opening in molecular diagnostics to pursue new approaches for the diagnosis of viral hepatitis. This position is a two year post-doctoral appointment in the Hepatitis Branch, Division of Viral Diseases, Centers for Disease Control that involves the development of isotopic and non-isotopic hybridization assays at the cellular and molecular levels. The candidate must have a Ph.D. in molecular biology, biochemistry or related discipline, and a background in the molecular biology of viruses. The appointment carries an annual stipend, relocation assistance to Atlanta, and a fringe benefit package. Please send Curriculum Vitae and names of three references to: **Baxter Healthcare Corporation, Dade Division, P.O. Box 140520, Coral Gables, FL 33114, Attention: CDC Department.** Equal Opportunity Employer.

**Baxter**

## NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES (NIAMS) NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE

The Section on Chemical Immunology of the Arthritis and Rheumatism Branch is seeking an MD trained in membrane biochemistry and molecular genetics with an interest in investigating the early events in IgE-mediated degranulation of mast cells at the molecular level. The Branch is part of the intramural program of NIAMS with major interests in autoimmunity, chronic inflammation and clinical investigations in autoimmune diseases. Applicants should have at least 3 years post-doctoral training/experience. He/she will be considered for a permanent career or career conditional appointment at the GS-13 level (\$48,162-59,787 p.a.). Applicants should send a curriculum vitae, bibliography, a short statement of research interests, as well as the names of three references to **Henry Metzger, M.D., Director, Intramural Research Program, Bldg. 10, Rm. 9N240, NIAMS, NIH, 9000 Rockville Pike, Bethesda, MD 20892 (301-496-3375).** U.S. Citizenship Required.

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

## POSTDOCTORAL SCIENTIST

### Regulation of Apolipoprotein Gene Expression

The Upjohn Company has a position available in the Metabolic Diseases and Molecular Biology Research units to study the regulation of primate apolipoprotein gene expression. An M.D. or Ph.D. in biochemistry, physiology or related field, and prior training and experience studying the physiology and metabolism of lipoproteins are required. Some exposure to recombinant DNA techniques would be helpful, but is not essential since the successful candidate will receive training in this area. Support is available for 2 years.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a mix of excellent cultural, educational and recreational pursuits, including numerous lakes and a four-season climate. Upjohn offers a very competitive salary, commensurate with experience and an outstanding benefits program.

For confidential consideration, interested applicants may write, sending curriculum vitae to:

**Robert A. Bowen, Jr.  
Employment Representative  
The Upjohn Company, 5044-41-1  
7000 Portage Road  
Kalamazoo, MI 49001**

Please refer to Ad Number 22178-F in your correspondence.

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**Upjohn**



# Pharmaceutical Research and Development

Genentech, Inc., a leader in the field of biotechnology, has the following opportunities available in Pharmaceutical R&D. In these positions, the successful candidates will be involved with laboratory studies leading to the development of new dosage forms and delivery systems for protein drugs. These studies will include the physical and chemical characterization of proteins, assessment of stability, formulation design, and the development of delivery systems.

## Scientist

The successful candidate will hold a Ph.D. or equivalent in Physical Chemistry, Biochemistry, or Pharmaceutical Chemistry with heavy emphasis on physical/analytical concepts. Experience with proteins is desirable and a fundamental knowledge of analytical techniques (Spectroscopy, HPLC/FPLC, gel electrophoresis, etc.) is essential, as are strong communication skills and the ability to interact and collaborate within a multidisciplinary group. 1-3 years' industrial experience in pharmaceutical formulation R&D or 1-3 years' postdoctoral experience in physical or analytical biochemistry are also required.

## Research Associates/Assistants

The successful candidates will hold a BS/MS or equivalent in Physical Chemistry, Biochemistry, or Pharmaceutical Chemistry with heavy emphasis on physical and analytical concepts. Experience with proteins and a fundamental knowledge of analytical biochemistry techniques are essential. 1-3 years' industrial experience in pharmaceutical formulation R&D or 1-3 years' industrial/academic experience in physical or analytical biochemistry are also required.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, send your resume to Joyce Goulden, Human Resources Department 1000, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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## RESEARCH SCIENTISTS

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

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

**MOLECULAR BIOLOGIST:** Experience in recombinant DNA technology and DNA probe hybridization systems, with some background in clinical or diagnostic microbiology.

**VIROLOGIST:** Experience in clinically relevant virology, recombinant DNA technology, and tissue culture; for research on antiviral therapeutics.

**MOLECULAR GENETICIST:** Experience in molecular biology and DNA hybridization technology as related to cancer/oncology or genetic disorders.

**BIOORGANIC CHEMIST:** Experience in nucleic acid, nucleoside or backbone modification, and affinity/solid support chemistry.

In addition to a stimulating scientific environment, we offer a competitive compensation/benefit package and relocation assistance. IDT is located in an attractive midwestern community and is in close proximity to a major university and medical school complex. Please send a resume and description of research experience to: **Personnel, Integrated DNA Technologies, Inc., Tech Innovation Center, Oakdale Campus, Iowa City, IA 52242.**

# IDT

INTEGRATED  
DNA  
TECHNOLOGIES, INC.

## Plant Biotechnology Opportunities

The Plant Biotechnology Group of the Zeecon Research Institute, a division of Sandoz Crop Protection Corporation, is seeking scientists to join our research organization in Palo Alto. The following positions are available:

**Sr. Scientist.** Ph.D. Molecular Biologist with postdoctoral experience preferred. Candidate should have an interest in the problems of agriculture and have the ability to contribute to the solutions of these problems. Background or interest in plant science desirable.

**Associate Scientist/Scientist.** BA/BS or MA/MS in Molecular Biology, Biochemistry or related fields. Experience with recombinant DNA is desired.

Zeecon Research Institute has been a leader in innovative agricultural research for more than 15 years. The Institute has established research programs in herbicide design, plant biotechnology, insect physiology/biochemistry and chemistry. Research in plant biotechnology supports the plant breeding efforts at Northrup King Seeds, Rogers Brothers Seeds, and other Sandoz seed companies. Our research environment encourages interaction with other scientists throughout the world.

To apply for this position, please send a letter describing your interests, a curriculum vitae and the names of three references to:

**SANDOZ CROP  
PROTECTION CORPORATION**  
Zeecon Research Institute  
Human Resources Department  
975 California Avenue  
Palo Alto, CA 94304  
AA/EOE



## POSITIONS OPEN

Johns Hopkins School of Medicine. **POSTDOCTORAL RESEARCH POSITION** immediately available to study the regulation of acetylcholine receptors (AChRs) in skeletal muscle cells in a variety of model systems in vivo and in culture. Ph.D. or M.D. and some previous research experience required. Opportunity available immediately for qualified person. Send curriculum vitae or names of three references to: **Daniel B. Drachman, M.D., Department of Neurology, Johns Hopkins School of Medicine, 600 North Wolfe Street, 5-119 Meyer Building, Baltimore, MD 21205.**

The Center for Bioanalytical Research (CBAR), University of Kansas, has openings for **POSTDOCTORAL RESEARCHERS** in areas related to biospecific reagents, bioseparations and instrumentation. Ph.D. in analytical chemistry, pharmaceutical chemistry, biochemistry, or closely related field required. Experience in HPLC, spectroscopy, analytical instrumentation and/or electrochemistry desirable with background in biochemistry helpful. \$18,000 to \$22,000 per year. Applicants should send curriculum vitae and three letters of recommendation to: **Dr. Theodore Kuwana, CBAR, 2095 Constant Avenue, Lawrence, KS 66046. Affirmative Action/Equal Opportunity Employer.**

**NRSA POSTDOCTORAL TRAINEESHIP** to study receptor binding of nascent lipoproteins in human liver cells and regulation of lipoprotein metabolism by specific receptor ligands. Knowledge of iodination, ligand blotting and cell culture techniques helpful. Available July 1988, U.S. citizen or resident only. Send curriculum vitae and name of three references to: **Dr. Trudy Forte, Cell and Molecular Biology Division, Donner Laboratory, Lawrence Berkeley Laboratory, University of California, #1 Cyclotron Road, Berkeley, CA 94720. An Equal Opportunity Employer M/F/H.**

### RECLAMATION RESEARCH DIRECTOR

The Florida Institute of Phosphate Research seeks an individual to be responsible for the direction and implementation of the Institute's contractual and in-house research program in the areas of phosphate surface mine reclamation. The candidate should possess at least a B.S. in biology, ecology or a related field and have at least 4 years of experience, preferably with industry and development. An advanced degree is preferred.

Submit a completed State of Florida Employment Application, résumé, and the names and telephone numbers of at least three references to: **Florida Institute of Phosphate Research, 1855 West Main Street, Bartow, FL 33830. Telephone: 813-533-0983. Closing date for receiving applications is 29 April 1988.**

### RESEARCH AND TEACHING FACULTY POSITIONS IN PHYSICAL OCEANOGRAPHY

Applications are invited for one research faculty position and one tenure-track academic faculty position in the Division of Meteorology and Physical Oceanography, School of Marine and Atmospheric Science, University of Miami. Rank and salary will be negotiated depending on qualifications. The applicant must hold a Ph.D. in physical oceanography or a related discipline.

The division pursues a wide range of research programs in both meteorology and physical oceanography, including atmospheric and oceanographic numerical and theoretical modelling, radar meteorology, satellite oceanography and sea-going experimental physical oceanography, for which assistance is available from a skilled technical support group.

Applicants should preferably have several years of experience in planning and execution of oceanographic field experiments, and a record of scholarly publications which demonstrate the ability to analyze and interpret oceanographic observations; however, applicants in other areas of physical oceanography are also encouraged to apply. Duties of the academic faculty position include teaching graduate level courses in physical oceanography and supervising research of graduate students.

Send curriculum vitae, publication list, and names of three references by 15 June 1988 to: **Dr. Claes Rooth, Search Committee Chairman, Division of Meteorology and Physical Oceanography, Rosenstiel School of Marine and Atmospheric Science, University of Miami, 4600 Rickenbacker Causeway, Miami, FL 33149-1098. The University of Miami is an Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

**RESEARCH ASSOCIATE** to conduct research for Wetland Ecology Program projects concerning sulfur transformations in tidal marshes; develop chemical and biological techniques to study pathways of sulfur cycles and their ecological significance; use x-ray powder diffraction analysis, ion autoanalyzer, electrochemical analysis and develop new methods for speciation of sulfur in sediments; write and publish reports; supervise graduate students in related studies. Requires a Ph.D. in chemistry. Must demonstrate ability to perform stated duties by publication or research. Salary: \$400 per 40-hour week, 8 a.m. to 5 p.m. Apply with résumé to: **Job Service of Florida, 1307 North Monroe Street, Tallahassee, FL 32303. Job Order #5245512.**

**RESEARCH ASSOCIATE PROFESSOR** position available for applicant with strong research credentials in combined immunocytochemical and neuroanatomical tracing techniques at the electron microscopic level. Applicant should have ongoing externally funded research program, and will be teaching neuroscience. Successful candidate is expected to participate in ongoing research in the basal forebrain. Send curriculum vitae, brief statement of research, and names of three references to: **Frances Coffey, Business Manager, Box 430, University of Virginia Medical Center, Charlottesville, VA 22908. Equal Opportunity/Affirmative Action Employer.**

Tennessee—**RESEARCH SCIENTIST**—The University of Tennessee Medical Center—Knoxville. Candidate must have a Ph.D. in biochemistry, and 5 years of experience in membrane transport. Candidate will assume the position of research investigator in pediatric nephrology and supervisor of Developmental Renal Physiology Research Laboratory. Candidate must possess good interpersonal and communication skills and organizational abilities. Interested candidates should apply to: **E. S. Moore, M.D., Chairman, Department of Pediatrics, The University of Tennessee Medical Center—Knoxville, 1924 Alcoa Highway, Box 113, Knoxville, TN 37920. Equal Employment Opportunity/Affirmative Action/Title IX/Section 504 Employer.**

**SENIOR RESEARCH POSITION:** The Dana-Farber Cancer Institute is seeking to fill a senior research position to study the function of *ras* oncogenes. Strong background in molecular biology and at least 2 years of postdoctoral experience in analysis of human oncogenes are required. Joint appointment will be held in an appropriate department of Harvard Medical School. Salary competitive. Send curriculum vitae and names of three references to: **J. Edelman, Laboratory of Molecular Carcinogenesis, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115. An Equal Opportunity Employer.**

### DEPARTMENT OF PHYSICAL THERAPY FACULTY OF REHABILITATION MEDICINE UNIVERSITY OF ALBERTA

Applications are invited for two full-time **TENURE-TRACK APPOINTMENTS** in the Department of Physical Therapy, for 1 July 1988. The University of Alberta offers B.Sc. and M.Sc. degrees in physical therapy. Qualified candidates must possess a doctoral degree. A physical therapy background would be an asset. Salary will be commensurate with qualifications and experience. (Assistant professor range: \$31,612 to \$45,340; Associate professor range: \$39,620 to \$57,236).

Responsibilities include undergraduate and graduate teaching, research and scholarly work, and administrative duties. A strong clinical background would be an asset. In addition, undergraduate and graduate teaching in cardiac/pulmonary physiotherapy is required for one of these positions.

*In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.* The deadline for receipt of applications is 15 May 1988.

Qualified applicants should send curriculum vitae, state their teaching and research interests, together with the names of three references to:

**Dr. Martha C. Piper, Dean  
Faculty of Rehabilitation Medicine  
316 Corbett Hall  
University of Alberta  
Edmonton, Alberta, Canada  
T6G 2G4**

*The University of Alberta is committed to the principle of Equity in Employment.*

## POSITIONS OPEN

Immediate **RESEARCH OPPORTUNITIES** in carcinogenesis at the postdoctoral and junior/senior research assistant/associate/scientist level. Project involves studying the effects of dietary manipulation on the development of colon cancer in rats. Required techniques include Western and Northern blotting, flow cytometry, RIA, ELISA, enzymology, and primary culture. Minimum of 3 years of relevant laboratory experience required. Qualified and serious candidates should send their curriculum vitae, and three letters of recommendation by 16 May 1988 to: **Oliver Alabaster, M.D., Director, Institute for Disease Prevention, George Washington University Medical Center, Suite 421, Ross Hall, Washington, D.C. 20037.**

*Equal Opportunity/Affirmative Action.*

### TENURE-TRACK FACULTY POSITIONS IN MOLECULAR PHARMACOLOGY THE UNIVERSITY OF MINNESOTA

Applications are invited for positions of assistant professor in the Department of Pharmacology, School of Medicine. Successful candidates are expected to establish an outstanding independent research program in the area of molecular neuropharmacology and to participate in departmental teaching responsibilities. Requirements include a Ph.D. in Pharmacology, Biochemistry or related field, or an M.D., and have 2 years of postdoctoral experience. Candidates with a strong research background and experience using recombinant DNA technology for studying pharmacological problems and molecular biology of the CNS are preferred. Applicants must have demonstrated involvement in quality research published in peer-reviewed journals.

Positions are available immediately. Salary and start-up funds are competitive. Appointment as associate professor may be considered for applicants with professional distinction in published research and ability to attract extramural grant support, and who have demonstrated effectiveness in teaching and advising.

Applicants should send curriculum vitae, significant reprints, a statement of research plans, and three names for reference purposes to: **Dr. J. W. Miller, Professor and Chairperson of Search Committee, Department of Pharmacology, 3-260 Millard Hall, 435 Delaware Street S.E., University of Minnesota, MN 55455. Deadline for receipt of applications is 15 July 1988.**

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

### VERTEBRATE PHYSIOLOGIST

Indiana State University, Department of Life Sciences invites applications for a tenure-track appointment in vertebrate physiology at the level of assistant/associate professor. Persons qualified in the area of cardiovascular or respiratory physiology are encouraged to apply. A successful candidate will be expected to obtain extramural funding, to develop and maintain a vigorous, independent research program, and to teach in an area of specialization. Minimum requirements: Ph.D., postdoctoral and teaching experience. Salary and rank commensurate with qualifications. Send curriculum vitae, a brief description of current and future research interests, and have four letters of reference sent from individuals familiar with your work to: **Dr. Timothy Mulkey, Chairperson, Physiology Search Committee, Department of Life Sciences, Indiana State University, Terre Haute, IN 47809. Review of applications will begin 15 May 1988 and continue until the position is filled. An Equal Opportunity/Affirmative Action Employer.**

**VISION SCIENCE. TENURED OR TENURE-TRACK POSITION** available immediately to join strong research-oriented group of vision scientists. Applicants must have active research programs and willingness to participate in teaching courses in ocular physiology and pharmacology to optometry students, Ph.D. required. Rank and salary dependent upon qualifications. This is an additional position to the one previously advertised. Send letter of application, including statement of research interests, curriculum vitae, and names of three individuals willing to provide letters of reference to: **Dean Jerry L. Christensen, School of Optometry, University of Missouri—St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121. Women and minorities are encouraged to apply. An Equal Opportunity Employer. Deadline: 6 May 1988.**

# Scientists Postdocs

Genentech, Inc., a leader in the field of biotechnology, is currently seeking the following individuals.

## Scientist Retrovirus Studies

An individual is sought to participate in state-of-the-art research on endogenous and exogenous retroviruses of mammalian cell lines.

The successful candidate will have a Ph.D. and postdoctoral research in the molecular biology of retroviruses with experience in recombinant DNA techniques.

## Postdoctoral Fellow Cell Biology

An individual is sought to pursue a project dealing with the effects of growth factors on gonadal/pituitary cells and the regulation of secretion of such factors in the male reproductive system or other aspects of growth factor function.

Requirements include a Ph.D. and 1-2 years' postdoctoral experience in endocrine physiology, reproductive biology or mode of action of growth factors. Cell culture and/or basic cell biology skills are also required.

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. For consideration, send your resume to Joyce Goulden, Human Resources, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. Please indicate Department 1464 for the Scientist position and Department 2149 for the Postdoc. An equal opportunity employer.

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## Medicinal Chemist

The Medicinal Chemistry Department of Smith Kline & French Laboratories seeks an outstanding organic chemist to work in a state-of-the-art research facility in the Philadelphia suburbs, near Valley Forge. The selected individual will assist in the design and synthesis of receptor antagonists and molecules destined to interrupt enzymatic processes. Experience in synthetic organic chemistry is essential.

The successful candidate will possess the following:

- B.S. or M.S. in Chemistry or equivalent experience.
- Excellent working knowledge of reaction mechanisms.
- Skill in modern methods of isolation and purification of reaction products.
- Experience in the use of modern physical methods to determine the structure of reaction products.
- An ability to communicate results effectively.

We offer an excellent compensation, benefits and relocation package as well as opportunities for personal and professional growth. For confidential consideration, please forward your resume and the names of three references to Ms. Angela Varrichio, Associate Employment Administrator, V0020, SK&F Laboratories, P. O. Box 1539, King of Prussia, PA 19406-0939. We are an equal opportunity employer, M/F/H/V.

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## Sr. Engineer/ Staff Scientist

You will be responsible for controlled parenteral drug delivery systems activities (such as programmable pumps). This includes system design, fabrication and testing. Requires MS or PhD in Mechanical or Chemical Engineering with 3-5 years of hands-on experience with medical infusion devices. Your background should include design of infusion and other medical devices, physicochemical characterization of polymers and polymer processing techniques. Clean room operation skills and experience with clinical testing and regulatory aspects of medical devices would be helpful.

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## University of Pittsburgh

### DEAN, GRADUATE SCHOOL OF PUBLIC HEALTH

The University of Pittsburgh seeks applications and nominations for the position of Dean, Graduate School of Public Health. The School is one of six schools of the health sciences on the campus of the University and its affiliated hospitals. The School currently enrolls 607 full- and part-time students (375 FTEs), studying for master's and doctoral degrees in the fields of biostatistics, human genetics, epidemiology, community health services, health administration, infectious diseases and microbiology, environmental health, occupational health, and radiation health. The Dean is responsible to the Senior Vice President for the Health Sciences. The annual expenditures of the School, including sponsored research, are in excess of \$17,000,000.

Candidates must have had substantial experience in the academic aspects of at least one of the fields of study at a level equivalent to a full professorship and preferably be engaged currently in research pertinent to that field.

Nominations or resumes should be sent before July 31, 1988, to:

**George M. Bernier, Jr., MD**  
**Chairman, Search Committee for**  
**Dean, Graduate School of Public Health**  
**M-246 Scaife Hall**  
**University of Pittsburgh**  
**Pittsburgh, PA 15261**

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ABI offers a competitive salary and comprehensive benefits package. Send resume and salary history to Personnel/Applied Biosystems, Inc., Dept. of Software, 850 Lincoln Centre Dr., Foster City, CA 94404-1155. We are an Equal Opportunity Employer.



## ASSOCIATE SCIENTIST IN HYBRIDOMA TECHNOLOGY

Eli Lilly and Company, an established leader in pharmaceutical research, has a research position open at the associate level for applicants with a B.S. or M.S. degree in biochemistry or related disciplines. The successful candidate will have several years of experience in research applications of biotechnology. Specifically, the candidate should have direct experience with state-of-the-art hybridoma technology, procedures for the purification and characterization of proteins/glycoproteins, and have expertise in immunochemical techniques. A working knowledge of recombinant DNA technology is also desirable. The successful candidate will be a highly motivated individual who can work independently.

Interested candidates should send a cover letter and a resume with a detailed description of research experience to:



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## Postdoctoral Research Associates

The Agricultural Research Service as the principal scientific research agency of USDA, conducts research to produce more and better food and fiber; to control insect pests and weeds safely; to get food to consumers in better condition; to improve human nutrition; to help protect soil, water, and air, and to find new uses for agricultural commodities. Much of the work is on the cutting edge of each discipline—biotechnology (including molecular biology, genetic engineering, and membrane research), application of theories of artificial intelligence to computer technology, and innovative approaches to pest control through insect neurochemistry and the use of pheromones.

**ARS is currently recruiting for 100 postdoctoral positions throughout the country. Opportunities exist in the following research areas:**

- Genetics
- Biochemistry
- Chemistry
- Microbiology
- Animal Science
- Entomology
- Plant Physiology
- Plant Pathology
- Agronomy
- Soil Science
- Nutrition



Successful candidates will be hired under excepted appointments up to 2 years in duration. Salary for these GS-11/12 positions (\$27,716 to \$33,218) will be based on qualifications and experience.

*For information on positions available and application procedures, write to:*

**N. L. BAKES**  
Personnel Division (S)  
USDA/ARS/BARC-W  
Bldg. 003, Room 101  
Beltsville, MD 20705

ARS is an Equal Opportunity Employer. Women and Minorities are Encouraged to Apply.

## Postdoctoral Scientists Arachidonic Acid Metabolism in Cystic Fibrosis/Phospholipases

The Immunology Department of Smith Kline & French Laboratories, located in suburban Philadelphia, Pennsylvania, is seeking two (2) Postdoctoral Scientists to participate in a research program in an environment designed to foster creative innovative research and to promote personal and professional growth.

We consider postdoctoral studies to be of major importance in an individual's career and encourage publication of findings in leading journals and a full interaction with the scientific community. Our postdoctoral appointments are normally 2 years in duration.

### ARACHIDONIC ACID METABOLISM IN CYSTIC FIBROSIS

#### CANDIDATES ARE REQUIRED TO HAVE:

- Ph.D. with 0-2 years of postdoctoral experiences.
- Training and/or experience in leukotriene biosynthesis, phospholipid metabolism and arachidonic acid cascade.
- Experience and/or knowledge in isolation, characterization and purification of enzymes or proteins.
- Experience and/or knowledge in general biochemical and molecular biological techniques in the characterization of enzymes and genes.

#### THE SUCCESSFUL CANDIDATE WILL:

- Utilize polyclonal antibody and cDNA probes to study the transcriptional translational and post-transcriptional regulation of genes and enzymes.
- Compare the regulatory mechanisms of the target genes and enzymes derived from normal and disease states.

- Interact with scientists of various disciplines and publish the research results in scientific journals.

### PHOSPHOLIPASES

#### CANDIDATES ARE REQUIRED TO HAVE:

- Ph.D. with 0-2 years of postdoctoral experiences.
- Training in protein biochemistry, biochemical pharmacology or equivalent molecular biological experiences.
- Experience and/or practical knowledge in phospholipid/Ca<sup>2+</sup> metabolism and signal transduction mechanisms.
- Experience and/or knowledge in phospholipase A<sub>2</sub> and phospholipase C activation and metabolism.

#### THE SUCCESSFUL CANDIDATE WILL:

- Participate in isolation and characterization of proteins and enzymes involved in phospholipid metabolism.
- Characterization of pharmacological and/or biochemical important agents in phospholipid metabolism.
- Characterization of cellular functions of phospholipid metabolizing enzymes.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your C.V. and names of three references to Barbara J. Schwartz, S0038, Associate Employment Administrator, Smith Kline & French Laboratories, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an equal opportunity employer, M/F/H/V.

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## POSITIONS OPEN

**ZOOLOGIST:** The Department of Biology, University of Central Arkansas, invites application for a tenure-track assistant professor position to begin 1 January or 15 August 1989. Recent Ph.D.s or postdoctorates are encouraged to apply. The individual will teach both upper division invertebrate and vertebrate zoology, as well as biology for nonscience majors. Preference will be given to applicants with expertise in systematics and evolution. Submit curriculum vitae, copies of undergraduate and graduate transcripts, a brief description of teaching philosophy and research career goals, and three letters of recommendation to: Dr. Edmond Griffin, Chairman, Department of Biology, University of Central Arkansas, Conway, AR 72032. Telephone: 501-450-3146. The deadline for receipt of applications is 1 July. *The University of Central Arkansas is an Equal Opportunity Employer.*

## GRANTS



The American Health Assistance Foundation is accepting 2-year GRANT applications for Alzheimer's disease research with a maximum of \$100,000 renewable. Deadline: 30 October 1988. For further information, please write to:

American Health Assistance Foundation  
c/o Mrs. Charlene S. Lehman  
15825 Shady Grove Road, Suite 140  
Rockville, MD 20850

## SYMPOSIUMS

### ENDOCRINE FUNCTION AND AGING

14 and 15 September 1988, Clarion Hotel, St. Louis, Missouri. Symposium will (i) present recent information regarding changes in hormone secretion and action with age and (ii) apply this to endocrine disorders in the elderly. Topics will include diabetes, osteoporosis, stress, hypertension and impotence. Program will include invited speakers, contributed posters, and panel discussions. Contact: Conference Secretary, Geriatric Center (111G-JB), VA Medical Center, St. Louis, MO 63125. Telephone: 314-894-6510.

FIFTH INTERNATIONAL SYMPOSIUM  
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MECHANISM, DESIGN, AND  
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Chateau Lake Louise  
Alberta, Canada

For information: Dr. M. Z. Atassi, Baylor College of Medicine, Texas Medical Center, Houston, TX 77030.

## CONFERENCES

### AMERICAN ASSOCIATION FOR CANCER RESEARCH 79TH ANNUAL MEETING

25 to 28 May 1988, New Orleans, Louisiana: 31 slide and 73 poster sessions of submitted papers in all areas of cancer research. Special lectures by Norbert Brock, Webster K. Cavence, Isaiah J. Fidler, Frederick P. Li, and Enrico Mihich. Five major symposia: "Drug Resistance from the Molecular Level to Clinical Management," "Approaches to the Prevention of Cancer," "New Approaches to the Development of Anticancer Agents," "Growth Factors, Oncogenes, and the Control of Proliferation," and "Tumor Suppressor Genes—Mechanistic Aspects." Methods Workshop: "Cloning, Expressing, and Modifying Genes and Gene Products." Information: American Association for Cancer Research, Temple University School of Medicine, West Building, Room 301, Philadelphia, PA 19140. Telephone: 215-221-4565.

## CONFERENCES

### NEUROLOGICAL MUTATIONS IN THE MOUSE Bar Harbor, Maine 28 September to 2 October 1988

The resource of the mouse neurological mutations, their genetics, neurobiology, and use as models for human disease. Organized by M. Brilliant and R. L. Sidman. For registration information contact: Linda Fournier, Neurological Mutation Conference, The Jackson Laboratory, Bar Harbor, ME 04609. Telephone: 207-288-3371. Application deadline, 15 August 1988.

## PROGRAM

### TRAINING ESR SPECTROSCOPY

The National Biomedical ESR Center offers a 2-week intense training in ESR spectroscopy. The program, sponsored by NIH, is designated to provide hands-on opportunities in many advanced ESR techniques for graduate students and faculty members who have at least some previous experience working in ESR. The award includes travel expenses up to \$500. Send a letter and one-page research plan (student applicants should include a letter from graduate advisor) to: Dr. Ching-San Lai, National Biomedical ESR Center, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226. Telephone: 414-257-8574. *Equal Opportunity/Affirmative Action Employer M/F/H.*

## RESEARCH GRANTS

### RESEARCH INQUIRIES INVITED

The Smokeless Tobacco Research Council, Inc. invites inquiries regarding grant applications.

The Council sponsors independent research into questions of smokeless tobacco and health. Research support is through a program of grants-in-aid.

Grant applications are evaluated by the Scientific Advisory Board to the Council and will be judged solely on the basis of scientific merit and relevance.

Deadlines for submission of grant applications are 31 December for July funding and 30 June for January funding. Address inquiries or requests for applications to: The Smokeless Tobacco Research Council, Inc., 420 Lexington Avenue, New York, NY 10170. Telephone: 212-697-3485.

## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIP MOLECULAR IMMUNOLOGY UNIVERSITY OF CALIFORNIA SAN FRANCISCO (UCSF)

M.D. or Ph.D. for 2 to 3 years to begin on/after 2 July 1988. Molecular/cellular biology of mast cell peptide mediators of lymphocyte functions. Studies of peptides, receptors, genetic messages. Curriculum vitae and references to: Kate, U-426, University of California, San Francisco, CA 94143-0724.

### GRADUATE RESEARCH FELLOWSHIPS IN MOLECULAR GENETICS, BIOANALYTICAL CHEMISTRY, TOXICOLOGICAL AND NUTRI- TIONAL BIOCHEMISTRY AT OREGON STATE UNIVERSITY.

Competitive First-Year Graduate Fellowships are to be awarded for research in a department with diverse research, but a common interest in the impact of biological and chemical technologies. Fellows will be awarded graduate research assistantships, \$10,000 per year, and tuition remission for 1988 to 1989. They will select three laboratories in the Department of Agricultural Chemistry for research rotations, preparatory to choosing mentors and OSU Ph.D. programs that fit their interests. Finalists will be interviewed at the OSU campus at departmental expense. Candidates should contact: The Academic Programs Committee, Department of Agricultural Chemistry, Oregon State University, Corvallis, OR 97331, and arrange to have transcripts, GRE scores, and three letters of recommendation sent immediately. Telephone: 503-754-3791. *Oregon State University is an Affirmative Action/Equal Opportunity Employer and Complies with the Rehabilitation Act of 1973.*

## FELLOWSHIPS

**POST- AND PREDOCTORAL TRAINEESHIPS IN TOXICOLOGY.** NIEHS-sponsored research training program. Active research areas in mammalian systems: biochemical toxicology and xenobiotic metabolism, carcinogenesis and mutagenesis, neurotoxicology and behavioral toxicology, pulmonary and inhalation toxicology, and heavy metal toxicology. No research in the areas of: aquatic or forensic toxicology, ecological aspects, or invertebrate systems. *Only U.S. citizens are eligible. Women and minorities are encouraged to apply.* Dr. David Holbrook, curriculum in Toxicology, CB# 7270, Faculty Laboratory Office Building, University of North Carolina, Chapel Hill, NC 27599. Telephone: 919-966-4685.

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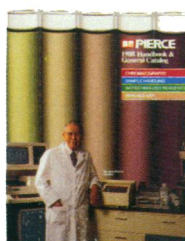
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# Here are seven functions you won't get if your HPLC auto-injector isn't from Gilson

You can spend less for an auto-injector. But you'll get a lot less performance. Here are seven benefits you'll miss if you don't buy a Gilson 231/401 Auto-Sampling Injector. Only the Gilson 231/401 Auto-Sampling Injector gives you all these benefits and more.

## **1** Automated sample prep saves time and money.

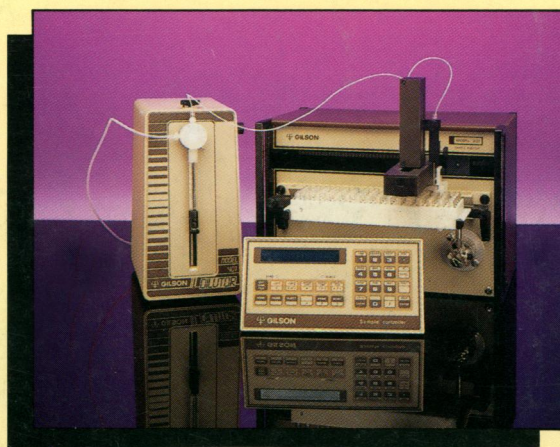
For fast, reliable sample prep, depend on Gilson's advanced sampling system. Save time by automating serial dilutions and pre-column derivatizations.

## **2** Electrically-actuated injection valve assures reliability.

Our electrically-actuated Rheodyne injection valve eliminates the cumbersome gas tanks, solenoid valves and tubing required to drive pneumatic valves. Besides simplifying your HPLC system, you'll appreciate the increased reliability and reduced downtime.

## **3** Complete program-mability allows custom sample processing.

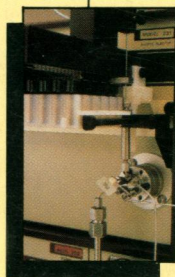
Some auto-injectors offer only basic injection functions. Gilson adds random position access, unlimited replicate injections,



variable sample patterns, and manual interrupt for injection of priority samples. And the 231/401 stores multiple programs for the multi-application laboratory.

## **4** Direct sample introduction eliminates sample loss.

Because samples proceed directly to the loop filler port, valuable sample is conserved. A 1  $\mu$ l sample can be injected with 99% accuracy.



## **5** Rinsing function eliminates sample-to-sample carryover.

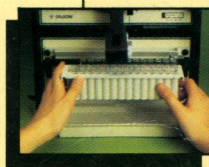
Between each injection, the 231/401 rinses the injection port, sample loading line and the outside of the needle. This

virtually eliminates sample-to-sample carryover to assure reliable results.

## **6** Unique detector feedback verifies system operation.

Unlike any other auto-injector, the Gilson 231/401 monitors the detector signal. It automatically stops the run if the baseline shifts or if an expected peak is not detected. It also dilutes concentrated samples if the height of a peak is off-scale.

## **7** Stationary rack system ensures trouble-free operation.



Carousel racks that rotate into position are subject to frequent mechanical failures. The Gilson 231/401 offers a more reliable stationary rack

system with fewer moving parts. Plus, 21 different racks are available to handle up to 120 samples in popular vial sizes.

**These are just a few of the features you'll find in the Gilson 231/401 Auto-Sampling Injector.**

To learn about others and to find out how to save time and money in your lab, mark the reader service number below for a free brochure. Or better yet, contact us for a demonstration. Call us toll-free at 800-445-7667.

**GILSON**

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