

combined attention of these specialists that will ultimately meet Prosser's challenge to understand the diversity of present-day organisms on the basis of their evolutionary past.

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## Cytochrome P-450

**Cytochrome P-450.** Structure, Mechanism, and Biochemistry. PAUL R. ORTIZ DE MONTELLANO, Ed. Plenum, New York, 1986. x, 556 pp., illus. \$69.50.

The last few years have seen an explosion of knowledge of cytochrome P-450 enzymes, such that need has developed for a comprehensive and contemporary treatise on these fascinating proteins. This volume fills the need superbly.

The initial chapter, by McMurtry and Groves, provides a succinct but complete review of the chemistry and spectroscopy of the numerous synthetic models for P-450. Next Marnett, Weller, and Battista compare the peroxidase activity of hemoproteins and cytochrome P-450 and Miwa and Lu discuss the topology of the mammalian cytochrome P-450 active site. Then Peterson and Prough examine the electron transfer proteins that are physiological partners of cytochrome P-450, Ingelman-Sundberg describes the relations between these proteins and phospholipid membranes, and Black and Coon extensively compare the primary structures of the numerous P-450 isozymes.

Ortiz de Montellano gives a particularly cogent discussion of oxygen activation and transfer, which is the central function of cytochrome P-450, and joins with Reich to examine the inhibition of cytochrome P-450 enzymes, with special emphasis on the extraordinary mechanism-based inhibitors that Ortiz de Montellano's laboratory has developed. In the next three chapters supramolecular processes are discussed—the induction of hepatic P-450 isozymes by Eisen, regulation of synthesis and activity of P-450 enzymes in physiological pathways by Waterman, John, and Simpson, and P-450 enzymes in sterol biosynthesis and metabolism by Jefcoate.

The last two chapters emphasize the extensive physical studies that have been performed on bacterial P-450. Sligar and Murray give a scholarly account of the physics and chemistry of cytochrome P-450<sub>cam</sub> and other bacterial P-450 enzymes. Poulos then provides excellent stereoscopic graphics of

the recently published crystal structure of P-450<sub>cam</sub>, including a color plate of the full structure in front and side views. In addition, Poulos reconciles the observed structure with known spectroscopic and mechanistic information.

The emphasis of this book, reflecting the interests of the editor, is strongly, but not overwhelmingly, on the chemical and physical aspects of the oxygen activation process. Not the least of its many strengths is the recentness of the references, which include many from 1985 and even some from 1986. Full titles of all cited papers are included. There are also many useful direct comparisons of the P-450 enzymes to synthetic chemical models, peroxidases, and the bleomycins. Among material not available elsewhere are Poulos's structural illustrations, a very practical appendix by Waxman serving as an atlas of the confusing landscape of closely related mammalian P-450 isozymes, a useful compilation of the properties of 52 P-450 enzymes from 13 species by Black and Coon, and an expanded thermodynamic theory of redox and spin states by Sligar and Murray. Most topics are given well-balanced treatment, although several authors have followed the natural tendency to cite their own work heavily. One lack is an account of the elegant molecular biology that has been conducted on the gene structures of the mammalian P-450 isozyme families. Overall, though, this book is highly successful in its purpose, and I can heartily recommend it to students and experts alike.

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## Books Received

**The American College and the Culture of Aspiration, 1915–1940.** David O. Levine. Cornell University Press, Ithaca, NY, 1986. 283 pp. \$29.95.

**Among Predators and Prey.** Hugo van Lawick. Sierra Club Books, San Francisco, 1986 (distributor, Random House, New York). 224 pp., illus. \$35.

**Amorphous Metals and Semiconductors.** P. Haasen and R. I. Jaffee, Eds. Pergamon, New York, 1986. xii, 471 pp., illus. \$95. Acta-Scripta Metallurgica Proceedings Series, 3. From a workshop, Coronado, CA, May 1985.

**Antimutagenesis and Anticarcinogenesis Mechanisms.** Delbert M. Shankel *et al.*, Eds. Plenum, New York, 1986. xii, 605 pp., illus. \$89.50. Basic Life Sciences, vol. 39. From a conference, Lawrence, KS, Oct. 1985.

**Biotechnology for the Mining, Metal-Refining, and Fossil Fuel Processing Industries.** Henry L. Ehrlich and David S. Holmes, Eds. Interscience (Wiley), New York, 1986. vi, 386 pp., illus. Paper, \$69.95. Biotechnology and Bioengineering Symposium, no. 16. From a workshop, Troy, NY, May 1985.

**Cell Movement and Cell Behaviour.** J. M. Lackie, Allen and Unwin, Winchester, MA, 1986. xvi, 316 pp., illus. \$45; paper, \$19.95.

**Cellulose.** Structure, Modification and Hydrolysis. Raymond A. Young and Roger M. Rowell, Eds. Wiley-Interscience, New York, 1986. xx, 379 pp., illus. \$64.50.

**Drug Receptors and Dynamic Processes in Cells.** Jens S. Schou, Arne Geisler, and Svend Norn, Eds. Munksgaard, Copenhagen, 1986 (U.S. distributor, Raven, New York). 416 pp., illus. \$68.50. Alfred Benzon Symposium, 22 (Copenhagen, June 1985).

**The Effects of Arts, Trades, and Professions on Health and Longevity.** Charles Turner Thackrah. With an introductory essay by A. Meiklejohn. Science History Publications (Watson), Canton, MA, 1985. xvi, 217 pp., illus. \$15. Resources in Medical History.

**Elder Ducks in Canada.** Austin Reed, Ed. Canadian Wildlife Service, Ste-Foy, Quebec, 1986 (available from Printing and Publishing, Supply and Services Canada, Ottawa). vi, 177 pp., illus. Paper, \$23.40. Canadian Wildlife Service Report Series, no. 47. Text in English and French.

**Human Growth Hormone.** Salvatore Raiti and Robert A. Tolman, Eds. Plenum Medical, New York, 1986. xiv, 662 pp., illus. \$89.50.

**The Human Oncogenic Viruses.** Molecular Analysis and Diagnosis. Albert A. Luderer and Howard H. Weetall, Eds. Humana, Clifton, NJ, 1986. xvi, 281 pp., illus. \$59.50. The Oncogenes.

**Hydrogen in Disordered and Amorphous Solids.** Gust Bambakidis and Robert C. Bowman, Jr., Eds. Plenum, New York, 1986. x, 428 pp., illus. \$69.50. NATO Advanced Science Institutes Series B, vol. 136. From an institute, Rhodes, Greece, Sept. 1985.

**Immune Regulation.** Marc Feldman and N. A. Mitchison, Eds. Humana, Clifton, NJ, 1985. xvi, 391 pp., illus. \$64.50. Experimental Biology and Medicine. Based on a conference, Cambridge, UK, 1984.

**Logic of Discovery and Logic of Discourse.** Jaakko Hintikka and Fernand Vandamme, Eds. Plenum, New York, and Communication and Cognition, Ghent, 1985. xvi, 271 pp., illus. \$42.50. Based on a conference.

**Low Tech Education in a High Tech World.** Corporations and Classrooms in the New Information Society. Elizabeth L. Useem. Free Press (Macmillan), New York, and Collier Macmillan, London, 1986. x, 278 pp., illus. \$19.95; to AAAS members, \$15.95. AAAS Issues in Science and Technology Series.

**Magmas and Magmatic Rocks.** An Introduction to Igneous Petrology. Eric A. K. Middlemost. Longman, New York, and Wiley, New York, 1985. x, 266 pp., illus. Paper, \$39.95.

**Mammalian Proteases.** A Glossary and Bibliography. Vol. 2, Exopeptidases. J. Ken McDonald and Alan J. Barrett. Academic Press, Orlando, FL, 1986. xvi, 357 pp., illus. \$34.

**Manipulating the Mouse Embryo.** A Laboratory Manual. Brigid Hogan, Frank Costantini, and Elizabeth Lacy. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1986. xii, 332 pp., illus. Spiral bound, \$60.

**Mass Spectroscopy.** H. E. Duckworth, R. C. Barber, and V. S. Venkatasubramanian, 2nd ed. Cambridge University Press, New York, 1986. xiv, 337 pp., illus. \$69.50. Cambridge Monographs on Physics.

**Materials Degradation Caused by Acid Rain.** Robert Baboian, Ed. American Chemical Society, Washington, DC, 1986. xiv, 447 pp., illus. \$79.95. ACS Symposium Series, 318. Based on a symposium, Arlington, VA, June 1985.

**Natural Energy and Vernacular Architecture.** Principles and Examples with Reference to Hot Arid Climates. Hassan Fathy. Walter Shearer and Abd-elrahman Ahmed Sultan, Eds. Published for the United Nations University by the University of Chicago Press, Chicago, 1986. xxiv, 172 pp., illus. \$25; paper, \$10.95.

**Natural History of the Major Histocompatibility Complex.** Jan Klein. Wiley-Interscience, New York, 1986. xxii, 775 pp., illus. + plates. \$95.

**The Neural Basis of Motor Control.** Vernon B. Brooks. Oxford University Press, New York, 1986. xiv, 330 pp., illus. \$45; paper, \$27.95.

**Neuroendocrine Molecular Biology.** G. Fink, A. J. Harmar, and Kenneth W. McKerns, Eds. Plenum, New York, 1986. xii, 498 pp., illus. \$79.50. Biochemical Endocrinology. From a symposium, Edinburgh, Sept. 1985.

**Neuroimmunomodulation.** Proceedings of the First International Workshop on Neuroimmunomodulation (Bethesda, MD, Nov. 1984). Novra Herbert Spector *et al.*, Eds. International Working Group on Neuroimmunomodulation, Bethesda, MD, 1985. xx, 307 pp., illus. Paper, \$16.

**Prehistoric Hunter-Gatherers in Japan.** New Research Methods. Takeru Akazawa and C. Melvin Aikens, Eds. University of Tokyo Press, Tokyo, 1986 (U.S. distributor, Columbia University Press, New York). xiv, 221 pp., illus. + plates. \$62.50. From a symposium, Vancouver, British Columbia, Sept. 1983.

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## Products & Materials

### Process Membrane Filters

ASYPOR, NYPOR, TEFPOR, and PEPLON are process membrane filters validated to strict Health Industry Manufacturers Association recommendations. ASYPOR (0.1 to 3.0  $\mu\text{m}$ ) produces high flow rates with an asymmetrical pore structure membrane; it can filter both water and difficult-to-filter liquids. NYPOR is constructed of nylon membrane in 0.2, 0.45, and 0.65  $\mu\text{m}$  sizes and can handle a broader range of applications than ASYPOR. TEFPOR, made of polytetrafluoroethylene membrane in 0.1, 0.2, and 0.45  $\mu\text{m}$  sizes, is designed for more aggressive liquids. PEPLON, a polypropylene filter in sizes up to 100  $\mu\text{m}$ , filters and clarifies liquids. All four filters use materials that comply with Food and Drug Administration guidelines, and they conform to United States Pharmacopeia XXI Class VI for plastics. Also, the filters are in situ steam-sterilizable, autoclavable, and integrity testable. Domnick Hunter. Circle 525.

### Automated Ion-Selective Electrode System

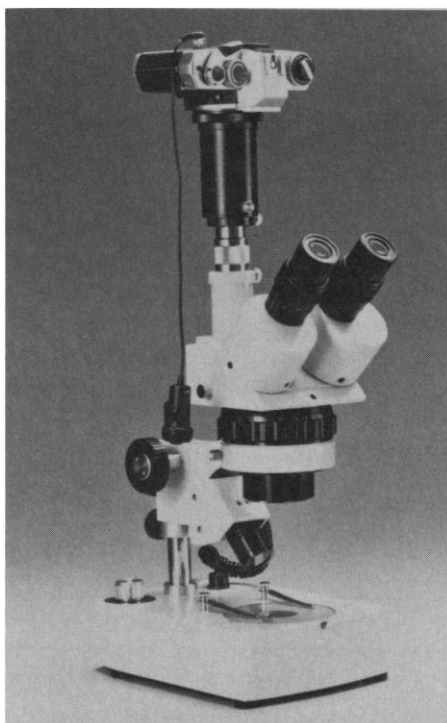
The 960 Autochemistry System is an automated system for measurement by electrode. It consists of a pH-ISE meter and an autochemistry module containing a stirrer, electrode holder, reagent rack, automatic dispenser, and software for performing 11 analytical techniques. Five of the techniques enhance electrode performance by increasing the speed and reliability of measurements relative to manual procedures. Other techniques expand the number of analyses that can be made by electrodes through both traditional and novel titration methods. The "help" function can suggest a specific technique and specific parameters, such as reagent concentration and sample volume. The system is operated by means of "yes" and "no" buttons on the front panel of the meter. Written promptings guide the user through operation of the system. Required numeric data, such as sample volume, sample weight, and reagent concentration, are entered from a keypad on the meter. The

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dispenser is a rotary, reciprocating pump. The valveless construction allows the user to replenish reagent by filling a reservoir. The system has no dead volume, allowing reagents to be changed quickly. Orion Research. Circle 528.

### Zoom Stereomicroscope

The EMZTr trinocular zoom stereomicroscope has a zoom ratio of 1:5.7, allowing magnifications continuously variable from  $\times 8$  to  $\times 45$  with  $\times 10$  eyepieces. The magnification range can be expanded to vary between  $\times 2$  and  $\times 270$  by attaching objec-



tives  $\times 0.5$ ,  $\times 1.5$ , and  $\times 2$  with working distances of 153, 50, and 35 mm, respectively, in combination with eyepieces of  $\times 5$ ,  $\times 10$ ,  $\times 12.5$ ,  $\times 20$ , and  $\times 30$ . The standard working distance is 90 mm. The binocular tube inclines  $45^\circ$  and rotates  $360^\circ$ . The vertical phototube allows deflection of the image from the left optical path when the beam splitter lever is moved for photography. The EMZTr stereomicroscope is compact and modularly designed. H&R Optical Systems. Circle 556.

### HPLC Systems

The 4030 and 4040 high-performance liquid chromatography systems combine flexibility and high performance. The 4030 provides either binary or ternary gradients with a single, easy to program pump. The 4040 is a totally programmable system com-

bining precise solvent delivery with a multi-wavelength detector. The visible and ultraviolet light detector has the sensitivity (0.0005 absorbance unit full scale) required for routine and trace analyses. Both systems feature a computing integrator with replot, baseline draw, and data storage capabilities. With the addition of an IBM PC and special software, the user gains automated methods development capability. LDC/Milton Roy. Circle 526.

### Sample Preparation System

The Chrom-Prep cartridge sample preparation system is designed for applications requiring the removal of gross or subtle analytical interferences during sample preparation; this includes applications such as spectrophotometry, gas chromatography, liquid chromatography, and automated titrations. Chrom-Prep lowers the risk of sample contamination, decreases operator steps, and minimizes solvent and reagent consumption. Chromatographic fractions in the microliter range may be collected by using the 80- or 320- $\mu\text{l}$  geometry cartridge or may be directly injected into sample loop or sample cuvettes for subsequent analysis. Chrom-Prep is available with several types of adsorbents, for example, reverse-phase (PRP-1) resin for nonpolar impurities or mixed-bed (anion plus cation exchange) resin for polar impurities. Hamilton. Circle 533.

### Literature

*Laboratory Accessories Catalog* contains 128 pages of information on racks, pipettes, dispensers, plastic labware, desiccators, safety supplies, scintillation vials, and nontoluene/xylene scintillation cocktails. Research Products International. Circle 535.

*The Instrument Catalog* includes technical data and engineering tables in addition to hundreds of control instruments. Foxboro. Circle 536.

*Scienceware* is a catalog featuring plastic labware, wire racks, biohazard-control products, magnetic stirring bars, and other laboratory products. Bel-Art Products. Circle 539.

*Biological Research Products Catalogue* contains products for molecular biology and immunology applications. Promega Biotec. Circle 557.

*General Procedures for Primary Cell Culture* is a 12-page brochure discussing sources of vertebrate tissue, collection procedures, and culture techniques. Corning Science Products. Circle 558.

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Telephone: (516) 282-3415

(Continued from page 884)

**Prehistory in the Pacific Islands.** A Study of Variation in Language, Customs, and Human Biology. John Terrell. Cambridge University Press, New York, 1986. xvi, 299 pp., illus. \$42.50.

**Preservation of Historical Records.** Committee on Preservation of Historical Records, National Research Council. National Academy Press, Washington, DC, 1986. xx, 108 pp., illus. \$17.95.

**Principles of Analytical Electron Microscopy.** David C. Joy, Alton D. Romig, Jr., and Joseph I. Goldstein, Eds. Plenum, New York, 1986. xvi, 448 pp., illus. \$35.

**The Role of the Registry in Cancer Control.** D. M. Parkin, G. Wagner, and C. Muir, Eds. International Agency for Research on Cancer, Lyon, France, 1985 (U.S. distributor, Oxford University Press, New York). x, 155 pp., illus. \$20. IARC Scientific Publications, no. 66. Based on a meeting, Heidelberg, FRG, 1983.

**Roman Britain.** Outpost of the Empire. H. H. Sculard, Thames and Hudson, New York, 1986 (distributor, Norton, New York). 192 pp., illus. Paper, \$10.95. Reprint, 1979 edition.

**School Desegregation Research.** New Directions in Situational Analysis. Jeffrey Prager, Douglas Longshore, and Melvin Seeman, Eds. Plenum, New York, 1986. xvi, 267 pp., illus. \$29.50. Critical Issues in Social Justice.

**Transformation Assay of Established Cell Lines.** Mechanisms and Application. T. Kakunaga and H. Yasasaki, Eds. International Agency for Research on Cancer, Lyon, France, 1985 (U.S. distributor, Oxford University Press, New York). iv, 225 pp., illus. \$40. IARC Scientific Publications, no. 67. From a workshop, Lyon, France, Feb. 1984.

**Two-Dimensional Systems.** Physics and New Devices. G. Bauer, F. Kuchar, and H. Heinrich, Eds. Springer-Verlag, New York, 1986. x, 327 pp., illus. \$47. Springer Series in Solid-State Sciences, 67. From a winter school, Mauternsdorf, Austria, Feb. 1986.

**Ultratrace Analysis of Pharmaceuticals and Other Compounds of Interest.** Satinder Ahuja, Ed. Wiley-Interscience, New York, 1986. xvi, 384 pp., illus. \$59.95. Chemical Analysis, vol. 85.

# Personnel Placement

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

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**Entomologist/Toxicologist, Ph.D.** imminent, seeks challenging position involved with the data analysis, risk assessment, and management of xenobiotic chemicals. Industrial experience as analytical chemist. Present research in pesticide behavioral toxicology. Available January 1987. Box 202, SCIENCE. 11/14, 21

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**Light/Electron Microscopist.** More than 15 years of experience in histology, SEM and LEM, including DNA spreading and ultrathin sectioning; excellent references. Seeks position in Boston area for 1987. Box 186, SCIENCE. 11/14, 21

**Symbiologist, frontiersperson, regeneration technophile** seeks position in forward-looking, regeneration-oriented industry, agency, or academic department. Strong interest in uses of sustainable biological processes for resource management. Currently U.S. Department of Agriculture postdoctoral fellow studying N<sub>2</sub>-fixing actinomycetes (*Frankia*) from root nodules of actinorhizal plants. Former professor, taught general and pathogenic microbiology, immunology, and general biology for 10 years. Available August 1987. Box 195, SCIENCE. 11/14, 21, 28

**Toxicologist, Ph.D.** Extensive experience in regulatory toxicology, mammalian toxicology (carcinogenesis, teratogenesis, and reproductive toxicology), and risk assessment/management. Seeks consultation position/business partners. Box 200, SCIENCE. X

**Zoologist/Anatomist, Ph.D.** Broad background; experienced, innovative teacher; some administrative experience. Preference: small college teaching. Box 187, SCIENCE. X

## POSITIONS OPEN

**AIR TOXICS ANALYST**  
Idaho Air Quality Bureau

The Idaho Air Quality Bureau has an immediate opening in its Boise office for an individual interested in establishing and conducting a toxic air emission program. The position is in the Bureau's Planning and Permits Section. The individual must possess the ability to assess toxic exposure risks, evaluate environmental data, and prepare concise and defensible reports on the interpretation of the most up-to-date literature on toxic air emission health impacts. The salary range for this position is \$22,200 to \$29,700 per annum. For application information contact: Bob Groves, Idaho Air Quality Bureau, Division of Environment, 450 West State Street, Boise, ID 83720, telephone: 208-334-5898. *Equal Opportunity Employer, M/F/H/V.*

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The Department of Biology of the University of Colorado (CU) at Denver invites applications for a tenure-track position, to begin fall 1987. CU-Denver is a comprehensive urban university emphasizing excellence in research and in teaching at both the undergraduate and graduate levels. Applicants therefore should have strong commitments to both teaching and research, and present evidence of potential in both areas. Prior teaching experience and postdoctoral research experience are desirable. Candidates whose research involves molecular approaches to cell or developmental biology will be given preference. Teaching responsibilities will be cell biology and other courses such as developmental biology, molecular biology, or portions of general biology, depending on the candidate's expertise. Applicants should submit a letter describing teaching and research experience and future plans, curriculum vitae, and three letters of reference by 1 December to: Dr. Gerald Audesirk, Search Committee, Biology Department, Campus Box 171, University of Colorado at Denver, 1100 14th Street, Denver, CO 80202.

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## POSITIONS OPEN

**ANATOMIST, ASSISTANT PROFESSOR**, tenure-track. Primary teaching, neuroanatomy; secondary, assist in gross anatomy laboratory. Research open; preference for neuroscience or cell biology projects utilizing TEM, SEM, cytochemistry, and/or immunocytochemistry. Please submit curriculum vitae, outline of research interests, and names of three references to: **Dr. William E. Dossel, Chairman, Anatomy Department, Creighton University School of Medicine, 2500 California, Omaha, NE 68178.**

### ANATOMY FACULTY POSITION

Ph.D. or equivalent. Anatomist to teach neuroanatomy and assist in teaching gross anatomy to first-year medical students. Primary interest should be in developing teaching excellence. Development of a research program with eventual independent funding is encouraged. Research interests are open. Salary commensurate with qualifications and rank. Send curriculum vitae and three references by **5 December 1986** to:

**Dr. Tage Kvist**  
Assistant Dean for Basic Sciences  
Department of Anatomy  
Philadelphia College of Osteopathic Medicine  
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### MARINE SCIENCE ASSISTANT DIRECTOR.

The Louisiana Universities Marine Consortium (LUMCON) invites applicants for the position of assistant director of the Louisiana Universities Marine Center, a recently completed research and education facility on the Gulf coast. The Marine Center has a resident research staff and provides facilities for the research and educational programs of the 13-member universities of the consortium. Applicants should hold the Ph.D. and have extensive research experience in an area of coastal marine science, especially fisheries biology, toxicology, or environmental chemistry. Experience in academic administration or research project management is desired. The assistant director will be responsible for overseeing the research and instructional programs of the Marine Center under the guidance of the executive director of the consortium. The incumbent will also be expected to maintain an active research program and a faculty affiliation with one or more member institutions.

Applicants should submit a résumé, statement of career and research interests, and the names of three references by **5 December** to: **Dr. Donald F. Boesch, Executive Director, Louisiana Universities Marine Consortium, Chauvin, LA 70344.**

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**Cornell University**, Ithaca, invites applicants for a tenure-track **ASSISTANT PROFESSOR** position with research (75 percent) and teaching (25 percent) responsibilities. The appointee is expected to develop a strong, creative research program on the study of phytopathogenic bacteria within which the specific area of research is unrestricted. The teaching involves a graduate course in contemporary phytochemistry. A Ph.D. in plant pathology, microbiology, genetics, or related discipline is required. An applicant should be experienced in molecular biology and with plant-associated bacteria. Submit a letter of application stating career goals, transcripts, a résumé, and have four letters of recommendation sent to: **H. D. VenEtten, Department Plant Pathology, Cornell University, Ithaca, NY 14853**, by 1 February 1987.

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**ASSISTANT PROFESSOR**, tenure track beginning 1 July 1987. Established research record and expertise to develop an independent research program in some area of cardiopulmonary physiology required. Must demonstrate potential for quality teaching of medical and graduate students. Deadline 1 February 1987. Submit curriculum vitae, statement of research goals, and three references to: **Dr. Albert Ratner, Physiology Department, University of New Mexico, Albuquerque, NM 87131.** Affirmative Action Equal Opportunity Employer.

## POSITIONS OPEN

Search extended—**ASSISTANT PROFESSOR—Botany/Biology Department, North Dakota State University (NDSU)** invites applications for a 9-month, tenure-track position in **PLANT MOLECULAR BIOLOGY**. Responsibilities will include the development of a creative and vigorous research program leading to publications and extramural funding and participation in undergraduate and graduate teaching programs. Preference will be given to candidates who can document abilities in molecular approaches to research in interspecies gene transfer or gene regulation. Teaching assignments could include developmental, molecular, or plant physiology courses. Candidates must have a Ph.D. degree; teaching and/or postdoctoral experience is desirable. Applications should include curriculum vitae and a statement of teaching philosophy and research goals. Send application and make arrangements to have three letters of recommendation sent to: **Dr. Donald S. Galitz, Botany/Biology Department, North Dakota State University, Fargo, ND 58105**, by 1 December 1986. NDSU is an Equal Opportunity Employer.

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The Department of Microbiology and Immunology at UCLA School of Medicine is seeking a tenure-track assistant-associate professor in the area of molecular parasitology. Outstanding candidates with a Ph.D. and postdoctoral experience having a significant publication record are invited to apply. The successful candidate will join a group of vigorous faculty members and will take part in developing a program in parasitology to which the department is committed. He/she is expected to develop a strong and independent research program in molecular parasitology and will participate in teaching medical and graduate students. Salary is negotiable. Apply by 15 February 1987, with a detailed curriculum vitae, copies of two recent publications, a brief outline of a future research plan and three references to: **Dr. D. P. Nayak, Chairman, Parasitology Search Committee, Department of Microbiology and Immunology, UCLA School of Medicine, Los Angeles, CA 90024.**

*UCLA is an Affirmative Action and Equal Opportunity Employer.*

**PHARMACOLOGY—UNIVERSITY OF PENNSYLVANIA.** The Department of Pharmacology has openings for new faculty. Emphasis is on recruitment at the rank of **ASSISTANT PROFESSOR**. Applicants must have an advanced degree and at least 2 years of postdoctoral research experience. Preference will be given to individuals with backgrounds in molecular or cellular pharmacology, but applications from outstanding candidates in any area relevant to pharmacology will be welcome. Renovated laboratory space and reasonable start-up funds are available. *Applications from female and minority persons are especially encouraged.* Inquiries should include curriculum vitae, list of publications, reprints or preprints of selected papers, and a brief statement on career goals. They should be addressed to: **Dr. Marilyn Hess, Chair, Faculty Search Committee, Department of Pharmacology, University of Pennsylvania School of Medicine, Philadelphia, PA 19104-6084.** The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.

**ASSISTANT PROFESSOR: Georgia Southern College** has a tenure-track faculty position effective September 1987, for an insect geneticist, particularly with expertise in cyto/molecular and mosquito genetics. Teaching duties will include general biology, cell biology, and graduate/undergraduate genetics. Ph.D. required, postdoctoral research experience preferred. A commitment to quality in both teaching and research will be expected.

Send applications by 28 November 1986 with curriculum vitae, statements of personal teaching philosophy and research interests, transcripts, and names of three references (letters of recommendation will be requested from the top candidates at a later date) to: **Dr. J. B. Claiborne, Faculty Search Committee, Department of Biology, Georgia Southern College, Statesboro, GA 30460-8042.** Georgia Southern is an Equal Opportunity/Affirmative Action Employer and specifically invites and encourages applications from women and minorities.

## POSITIONS OPEN

The State University of New York (SUNY) at Purchase invites applications for a tenure-track position as **ASSISTANT PROFESSOR IN BIOLOGY** to begin 1 September 1987. Teaching duties will include animal physiology, human anatomy and physiology, vertebrate zoology, and/or histology. Ph.D. required. An active research program and the ability to engage and supervise undergraduates in baccalaureate thesis research are essential. Liberal fringe benefits, including TIAA/CREF. Send curriculum vitae and names of three references by 15 December to:

**Biology Search Committee**  
SUNY Purchase  
Purchase, NY 10577

*An Affirmative Action/Equal Opportunity Employer.*

### ASSISTANT PROFESSOR OF BIOCHEMISTRY (RESEARCH ANTICIPATED)

The Department of Biochemistry, Louisiana State University (LSU), seeks applicants for a non-tenure-track faculty position at the level of assistant professor (research). Candidates will require a Ph.D. in biochemistry or a related field and 1 to 2 years of postdoctoral experience with an established record of productivity. The area of expertise would be in the use of recombinant DNA technology and the application will be in glycosyl hydrolase and transferase enzymes, molecular cloning, and expression. Applicants should send curriculum vitae and three letters of recommendation by 28 November 1986 to:

**Roger A. Laine**  
Department of Biochemistry  
322 Choppin Hall  
Louisiana State University  
Baton Rouge, LA 70803

*Louisiana State University and Agricultural and Mechanical College is an Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT/ASSOCIATE PROFESSOR OF BIOCHEMISTRY AND MOLECULAR BIOLOGY—The Department of Biochemistry and Molecular Biology, Louisiana State University (LSU) School of Medicine in Shreveport**, invites applications for two tenure-track positions at the assistant professor level. Candidates with a strong background in molecular biology, molecular genetics, membrane and protein biochemistry, and molecular virology are especially encouraged to apply; however, outstanding candidates in other areas of biochemistry will definitely be considered. Applicants should submit curriculum vitae, description of current and/or future research program, and have three letters of reference sent by 15 December 1986 to: **Dr. Richard Courtney, Chairman, Department of Biochemistry and Molecular Biology, LSU Medical Center, 1501 Kings Highway, Shreveport, LA 71130.** An Affirmative Action/Equal Opportunity Employer.

### ASSISTANT PROFESSOR, MICROBIOLOGY

Applications are invited for a 9-month, tenure-track appointment at the assistant professor level in the Department of Microbiology. The appointment is to begin in August 1987; a possibility of additional support for summer sessions exists during each year. The department is in the College of Arts and Sciences and offers B.A., M.S., and Ph.D. degrees in microbiology. The department occupies new research and teaching facilities in the recently completed Biological Sciences Building. Applicants must have a Ph.D. degree in microbiology or a related field and postdoctoral research experience. Candidates must be actively involved in applied research utilizing recombinant DNA technology and genetic engineering in microbial ecology or pathogenesis. The successful candidate must develop a productive research program, direct M.S. and Ph.D. students and obtain extramural research funding. Duties will include teaching undergraduate and graduate courses in the microbiology program. Send curriculum vitae, a statement of research goals, and three references by 2 February 1987 to: **Dr. Ronald W. Treick, Department of Microbiology, Miami University, Oxford, OH 45056.** Miami University is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### DEPARTMENT OF PSYCHIATRY

Louisiana State University (LSU) Medical Center in Shreveport. As a result of program growth and development, the Department of Psychiatry is seeking highly qualified applicants for tenure-track positions at the Assistant, Associate, and Full Professor levels. Research experience and clinical expertise in biology and psychopharmacology of affective disorders, schizophrenia, and geriatric dementia preferred. Clinical researchers in substance abuse also invited to apply. Assistant professor position requires Board-eligibility and commitment to an academic-research career. All positions involve resident and student supervision, but no direct service obligations. Submit curriculum vitae and addresses of three references to: John Straumanis, M.D., Professor and Chair, Department of Psychiatry, LSU Medical Center, P.O. Box 33932, Shreveport, LA 71130. Affirmative Action/Equal Opportunity Employer.

The Department of Neurobiology at Stanford University School of Medicine invites applications from qualified individuals for the position of ASSISTANT PROFESSOR OF NEUROBIOLOGY commencing 1 September 1987. The successful candidate will have teaching experience in neurobiology and will be expected to maintain an independent research program of high quality. Preference will be given to those individuals who have significant research accomplishments. Applications including the names of three references should be addressed to: Chairman, Search Committee, Department of Neurobiology, Stanford University School of Medicine, Stanford, CA 94305. Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates.

### NEUROSCIENCES—CLINICAL AUDIOLOGY

A tenure-track position at the ASSISTANT/ASSOCIATE PROFESSOR level in the fields that constitute the interface between central auditory physiology, the neurosciences, and clinical audiology is available. This person should demonstrate research interests focusing on clinical applications of basic science developments.

The incumbent will be responsible for teaching courses addressing electrophysiologic techniques in audiology and for developing a course pertaining to brain imaging techniques. This person will be expected to develop identifiable, cohesive, and fundable collaborative investigations with other faculty members in audiology and/or in one or more of the following areas: otolaryngology, neurology, and basic neuroscience.

Applicants should send curriculum vitae, copies of recent publications, a summary of their current research activities, and the names of at least three individuals who can provide an evaluation of professional accomplishments and potential to: Dean C. Garstecki, Ph.D., Head, Audiology Program, Northwestern University, 2299 Sheridan Road, Evanston, IL 60201.

*An Equal Opportunity/Affirmative Action Employer*

### THE CENTER FOR NEUROSCIENCE DEPARTMENT OF ANATOMY AND NEUROBIOLOGY COLLEGE OF MEDICINE THE UNIVERSITY OF TENNESSEE, MEMPHIS

Positions of ASSISTANT, ASSOCIATE AND FULL PROFESSOR are available. Rank and salary to be commensurate with qualifications. Candidates must show evidence of strong research achievements. The department is the center of a rapidly expanding, multidisciplinary neuroscience program. Candidates must be pursuing research programs in neuroscience, especially utilizing molecular, neurochemical, and neurogenetic techniques. The position also requires teaching in anatomical courses. Please submit, by 30 November 1986, curriculum vitae, statement of research interest, and names of three individuals who can be contacted for letters of reference to: S. T. Kitai, Chairman, Department of Anatomy and Neurobiology, College of Medicine, The University of Tennessee (UT), Memphis, 875 Monroe Avenue, Memphis, TN 38163.

*UT Memphis is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR/MICROBIOLOGY INDIANA UNIVERSITY, BLOOMINGTON

The Department of Biology at Indiana University, Bloomington, is seeking a faculty member at the assistant professor level whose research interests involve molecular and/or genetic analysis of microbial or viral systems. The successful candidate will be expected to conduct a vigorous, independent research program and contribute to teaching. Applicants should have postdoctoral research experience and demonstrated ability as a creative scientist. Send curriculum vitae, a brief description of research interests, and arrange to have three letters of reference from individuals familiar with your work sent to: Dr. Norman Pace, Chairman, Microbiology Search Committee, Department of Biology, Indiana University, Bloomington, IN 47405.

Applications received before 31 December 1986 will be assured of consideration. Applications from minorities and women are especially desired.

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

Scripps Institution of Oceanography invites applications for an ASSISTANT RESEARCH OCEANOGRAPHER to work in a program of studies of tropical ocean climate. For the first 3 years, commencing 1 February 1987, support is available from Tropical Ocean and Global Atmosphere Program (TOGA) for measurement and interpretation of ocean thermal variability and heat transports in the Tropical Pacific Ocean. A Ph.D. in physical oceanography or related fields and experience in interpretation of ocean temperature variability is required. Salary: \$34,600.

Applicants should submit curriculum vitae and names of three references to: Professor Pearn P. Niiler, Chairman, Search Committee, MLRG, A-030, Scripps Institution of Oceanography, University of California, San Diego (UCSD), La Jolla, CA 92093, by 15 December 1986.

*UCSD is an Equal Opportunity/Affirmative Action Employer.*

The University of California, San Diego (UCSD) is recruiting an ASSISTANT RESEARCH VIROLOGIST. The applicant must have a Ph.D. with expertise in retrovirology, cell and virus culture, and molecular biology to conduct research in AIDS pathogenesis and the role of viral cofactors. Position available immediately for at least 2 years. Salary range is based on University of California pay scale. Interested individuals should send curriculum vitae with a list of three references to: Stephen A. Spector, M.D., Associate Professor, Department of Pediatrics, UCSD Medical Center, 225 Dickinson Street (H-814-H), San Diego, CA 92103. *Equal Opportunity/Affirmative Action Employer.*

### BIOCHEMIST MEMBRANE BIOCHEMIST

A position is available on the scientific staff of the Biology and Medicine Division, Lawrence Berkeley Laboratory, for a membrane protein biochemist to participate in structural and functional studies of proton-transport systems and other membrane proteins. Responsibilities will include the isolation, purification, and biochemical characterization of proteins under investigation, and reconstitution of the isolated proteins in a functionally active form suitable for high resolution electron microscopy and electron crystallography.

A Ph.D. in biochemistry or a related discipline, together with at least 2 years of postdoctoral experience is preferred. Experience with isolation, detergent solubilization, and subsequent purification of membrane proteins is expected, together with a good facility in the use of routine biochemical methods used in the analytical characterization of proteins. Salary depends on experience and excellent benefits.

Send curriculum vitae and names and addresses of three references to: Dr. Robert Glaeser, c/o Jaquie Schilling, Lawrence Berkeley Laboratory, Employment Office 90-1042, 1 Cyclotron Road, Berkeley, CA 94720. *An Affirmative Action Equal Opportunity Employer, M/F/H.*

### LAWRENCE BERKELEY LABORATORY

## POSITIONS OPEN

### ASSISTANT PROFESSORS BIOCHEMISTRY AND NUTRITION

The Department of Biochemistry, University of Ottawa has the following tenure-track positions available from 1 July 1987, subject to budgetary approval:

- 1) Assistant professorship in Biochemistry Program.
- 2) Assistant professorship in Biochemistry-Nutrition Program.

Candidates should have a doctorate and must be able to teach undergraduate level biochemistry or nutrition and/or food biochemistry in both French and English. The successful candidates will be expected to develop a research program in biochemistry or nutrition and/or food chemistry and will also be expected to participate in the training of graduate students. *In accordance with Canadian immigration law, preference will be given to Canadians and landed immigrants.* Applications before 1 December 1986 to: Dr. H. Kaplan, Department of Biochemistry, University of Ottawa, Ottawa, Ontario, Canada K1H 8M5.

ASSISTANT PROFESSOR IN BIOCHEMISTRY. Applicants should have at least 2 years of postdoctoral experience. Candidates experienced in enzymology, protein structure and function, or membrane biochemistry are preferred, but individuals with excellence in other fields will be considered. Applicant will be expected to conduct an active research program, obtain extramural funding, and participate in teaching medical and graduate students. Established scientists with funded programs will be considered for higher ranks. Send curriculum vitae, outlines of research projections, and references to: Professor I. Danishefsky, Chairman, Biochemistry Department, New York Medical College, Valhalla, NY 10595.

*Equal Opportunity/Affirmative Action Employer*

### THE SCIENTIST

#### The Newspaper for the Science Professional

is adding ASSOCIATE EDITORS to its Washington staff. Some science/science policy editing experience a must, plus (i) solid background in a "hard" science (especially physics or electronics) AND/OR (ii) experience commissioning, editing, and rewriting short opinion pieces, reviews, essays, or self-help articles. We concentrate on policy and politics, economics and financing, and other nontechnical aspects of doing science. Technical writing is not the right background for these jobs. Salary mid-30's. Résumé and letter to: Suite 605, 1101 Fifteenth Street, NW, Washington DC 20005. *We're an Equal Employment Opportunity/Affirmative Action Employer.*

### STANFORD UNIVERSITY

The Division of Applied Mechanics of the Department of Mechanical Engineering invites applications for a position at the ASSOCIATE PROFESSOR OR PROFESSOR level. Desired is an individual with established capacity for advanced research and for teaching. Applicants should have a strong interest in the development of mathematical, computational, and experimental methods for the analysis of materials and structures, with special experience in several of the following areas: dynamic fracture, inelastic fracture, damage mechanics, wave propagation, and the mechanics of microelectronic devices.

Applicants should submit a résumé and a list of references by 1 February 1987 to: Professor George Herrmann, Division of Applied Mechanics, Durand Building, Stanford University, Stanford, CA 94305.

### BIOLOGY FACULTY

(Rank and salary negotiable)

Applications are invited for a tenure-track and primarily research position in a 17-member department at a state university with 21,000 students, beginning September 1987. We are seeking a person who studies eukaryote organism(s) and preference will be given to a candidate who emphasizes molecular approaches. Candidates should submit curriculum vitae including a list of publications and at least three references along with their telephone numbers to: Dr. Woon H. Jyung, Chairman, Department of Biology, University of Toledo, Toledo, OH 43606. Telephone: 419-537-2066. *Affirmative Action/Equal Opportunity Employer.*





**UNIVERSITY OF WYOMING  
COLLEGE OF COMMERCE AND INDUSTRY  
STROOCK PROFESSORSHIP OF  
NATURAL RESOURCE CONSERVATION  
AND MANAGEMENT**

The University of Wyoming seeks candidates for the position listed above. The successful applicant will have an outstanding record as a teacher and scholar in natural resources and/or conservation and will be dedicated to teaching and research in the management of this field. Applications are encouraged from a wide range of disciplines in business, economics, and the natural sciences. The person selected is expected to take a strong leadership role in making the Bachelor's and Graduate programs of this college a center of excellence in natural resource management as well as stimulating a strong program of interdisciplinary research in natural resources across campus. Graduate programs offered in the College of Commerce and Industry include both Masters of Science and Doctoral programs in Economics and Statistics, an MBA and a Masters of Science in Finance. Applications from minority and female candidates are encouraged.

Nominations and applications (to include resume and names and addresses of at least three references) are being accepted immediately. Application deadline is January 15, 1987 or until filled. All correspondence should be addressed to:

**Ray Marquardt  
Chairman, Stroock Professorship  
Search Committee  
College of Commerce and Industry  
P.O. Box 3275 University Station  
The University of Wyoming  
Laramie, Wyoming 82071**

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

**Assistant and Associate Professor**—The Department of Biology at Memphis State University invites applications for the following tenure-track appointments to begin Fall, 1987.

**Animal Physiology**—Positions at assistant professor rank, applicants should have a Ph.D. with postdoctoral experience preferred. The successful candidate will be expected to develop an active research program in vertebrate physiology and pursue extramural funding. Preference will be given to candidates whose research experience compliments those of existing faculty. Teaching responsibilities include courses in physiology and development of a graduate course in the area of specialty.

**Botany**—Position at assistant professor rank, applicants should have a Ph.D. in botany or an allied area, with a strong background in basic botanical science. Postdoctoral training is preferred. The successful candidate will establish a research program in plant development and seek extramural funding to support this program. The research area is open, but should include an experimental approach to some developmental problem such as morphogenesis, differentiation, plant-microbe interaction or stress response. Experience in electron microscopy is desirable. Teaching responsibilities will include undergraduate course in plant anatomy and morphology, and a graduate course in area of specialty.

**Molecular Biology**—Position at assistant or associate professor rank, this new position will complement the growing program in molecular biology, the foundation of which is an endowed chair. The program represents a major University commitment to promote excellence in the area of molecular biology and biotechnology.

Candidates should have a Ph.D. in some aspect of plant, animal, or microbial molecular biology. Postdoctoral or equivalent experience is preferred. Applicants at the associate rank should have an established record of extramural funding. The successful candidate will be expected to develop a productive research program with extramural funding.

Curriculum vitae, statement of research interests, and three letters of reference should be sent to the Chairman of the appropriate search committee, c/o Department of Biology, Memphis State University, Memphis, TN 38152. Applications should be postmarked by January 9, 1987.

*An Equal Opportunity/Affirmative Action University*

## CELL SORTER OPERATOR

Cetus Corporation, a leader in the research and development of biotechnology-based therapeutics, seeks an experienced cell sorter operator to run a BD-FACS II system cell sorter. The successful candidate will have extensive cell sorting experience, preferably on the BD-FACS II system. Responsibilities include cell sorting and phenotyping in a research setting. Candidates must have demonstrated ability to perform independent and creative research, as well as collaborate effectively with other research staff.

Please send your resume in confidence to:

**CETUS CORPORATION  
Box DCS  
1400 Fifty-third Street  
Emeryville, CA 94608  
E/O/E**



## N O R D A SUPERVISORY PHYSICAL SCIENTIST

GM-1301-15

The Naval Ocean Research and Development Activity (NORDA), the Navy's lead laboratory for Mapping, Charting & Geodesy (MC&G), is seeking a senior scientist or engineer to provide scientific and technical leadership, as well as management, to its Mapping, Charting & Geodesy Division. The MC&G Division is responsible for carrying out a broad spectrum RDT&E program to develop new techniques and technology for acquiring, processing, analyzing and displaying MC&G information to support Navy, Defense Mapping Agency (DMA) and other Department of Defense requirements.

Presently, the Division is involved in the development of airborne and space systems for the collection of hydrographic and geomagnetic data. These systems employ electro-optic, electromagnetic, electropotential and magnetic technology. The Division is also involved in research and development in the areas of ocean optics, pattern analysis/recognition, image processing, potential fields and expert systems. NORDA has made major capital investments in research capabilities and facilities. These include a magnetic obser-

vatory, laser laboratory, pattern analysis laboratory, multi-spectral scanner and an airborne electromagnetic system.

Applicants should have a Ph.D. degree or equivalent education and experience in physical science and/or engineering. Applicants should have extensive knowledge and experience in MC&G, as well as demonstrated leadership and management ability in research and development. Exposure to Navy and DMA MC&G requirements is desired. Salary range is \$52,262 to \$67,940 per annum.

For technical questions, please contact Dr. Herbert C. Eppert, Jr., Director, Ocean Sciences Directorate, at (601) 688-4650 or AUTOVON 485-4650.

For application forms or employment information, please contact Mr. Mike Owens at (601) 688-4640 or AUTOVON 485-4640.

Interested applicants, submit a resume or Personal Qualifications Statement, SF-171 (if current or reinstatable Federal government employee) no later than 31 December 1986 to:

## NAVAL OCEAN RESEARCH AND DEVELOPMENT ACTIVITY

Code 140 (S)  
NSTL, MS 39529-5004

AN EQUAL OPPORTUNITY EMPLOYER • U.S. CITIZENSHIP REQUIRED

## POSITIONS OPEN

### ASTRONOMY

Subject to final budgetary approval, the Department of Astronomy of the University of California expects to make a tenure-track appointment in astronomy/astrophysics at the **ASSISTANT PROFESSOR** level, effective 1 July 1987. We seek optical or infrared observers who will utilize the facilities of the planned 10-meter telescope. Preference will be given to research interests in active galactic nuclei and quasi-stellar objects, but other fields will also be considered. Applicants should send, as soon as possible, curriculum vitae and bibliography, and a brief statement of research interests to: **Professor I. R. King, Chairman of Search Committee, Department of Astronomy, University of California, Berkeley, CA 94720**. Include the names of three references, but do not ask them to write letters until requested. Applications should be received by 15 December 1986.

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

**BIOCHEMIST:** The Chemistry Department of Colby College invites applications for a tenure-track assistant professorship in biochemistry commencing 1 September 1987. The candidate should have a Ph.D. in biochemistry, an interest in teaching, and research interests amenable to collaboration with undergraduates. The successful applicant will teach two semesters of biochemistry with laboratory, a one-semester nonmajors course, a one-semester course in an area of current biochemical interest, and direct undergraduate research projects. Colby is recognized for excellence in undergraduate education and close faculty-student interaction. A curriculum vitae, transcripts, statement of teaching and research interests, and three letters of reference should be sent to: **Professor Wayne L. Smith, Chair, Department of Chemistry, Colby College, Waterville, ME 04901**. The closing date for completed applications is 15 December 1986. *An Equal Opportunity/Affirmative Action Employer.*

### BIOCHEMISTRY FACULTY POSITIONS AT INDIANA UNIVERSITY

The Department of Chemistry at Indiana University, Bloomington, invites applications from biochemists for several anticipated tenure-track faculty positions. Candidates should have a significant postdoctoral research experience, a strong record of research accomplishments, and show exceptional promise for developing vigorous, independent programs of scholarly investigation. Our search will consider candidates in all current areas of biochemistry including structure-function relationships of proteins, enzyme reaction mechanisms, transmembrane signaling with hormones or neurotransmitters, protein-nucleic acid interactions, and physical biochemistry. Applications should include curriculum vitae, a list of publications, names of references, and a summary of future research plans. Candidates at the junior level should arrange to have three letters of recommendation forwarded as well. Deadline for applications is 30 November 1986. Please apply to:

**Professor V. J. Shiner, Jr., Chairman  
Department of Chemistry  
Indiana University  
Bloomington, IN 47405**

*Indiana University is an Equal  
Opportunity/Affirmative Action Employer*

**CELL BIOLOGIST/MOLECULAR GENETICIST**—The Department of Biology at West Chester University is seeking applicants for a tenure-track research/teaching position in the area of cell biology, molecular genetics, or a related discipline. Teaching competency is expected in areas of genetics, microbiology, and general biology. Research area should be in some area of cellular and/or molecular biology. Individuals with experience in recombinant DNA technology are encouraged to apply. Ph.D. in an appropriate discipline and a minimum of 1 year of college teaching experience required. Expected availability for September 1987. Submit curriculum vitae, undergraduate and graduate transcripts, and three letters of recommendation by 1 February 1987 to: **Dr. Elise Triano, Ph.D., Chair of Search Committee, Department of Biology, WEST CHESTER UNIVERSITY, West Chester, PA 19383**. *West Chester University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

## POSITIONS OPEN

### BIOMEDICAL NMR RESEARCH FELLOW.

Recent Ph.D. in biochemistry, with minimum of 2 years of relevant postdoctoral experience sought. Successful candidate will design and conduct biomedical NMR spectroscopic imaging experiments in a variety of pathological states including cancer, and experiments in biochemistry and physiology of proteins, lipids, cells, blood, tissues, organs, and perfused organs, as well as intact living animals. Specific expertise required in NMR spectroscopy, NMR coil construction and use, tumor biochemistry, in vivo tumor growth, cell culture, receptor pharmacology, handling and surgery of research animals, organ perfusion, cardiac physiology, and analytical HPLC biochemistry. Ph.D. in biochemistry is required. Salary: \$25,000. Send résumés to: **The Division of Employment Security, Hurley Building, Government Center, Boston, MA 02214**, and refer to case number 6900.

**BIOLOGIST** with demonstrated interest in teaching and research in developmental biology is desired. Teaching may include courses in general biology, as well as courses in development for both undergraduate and graduate students. The individual will also be expected to involve students in research. Laboratory space, basic instruments, and initial support will be provided. Northeast Missouri State University is a state-wide public liberal arts and sciences institution which is nationally recognized for its value-added approach to education. Please send a letter of application indicating your teaching and research goals, curriculum vitae, official undergraduate and graduate transcripts, and three letters of recommendation to: **Dr. Jack Magruder, Head, Division of Science, Northeast Missouri State University, Kirksville, MO 63501**.

**BOTANY**—Assistant Professor—tenure track, beginning August 1987. Commitment to undergraduate teaching and advising essential. Teaching a required botany course for biology majors, as well as biology unity and nonmajor course. Background should include systematics, physiology, and ecology of terrestrial and marine plants. Ph.D. required, teaching experience preferred. Candidate is expected to develop a research program to include undergraduates. Send curriculum vitae, transcripts, reprints, and three letters of recommendation to: **Dr. Fred Punzo, Chairman, Division of Science and Math, Box 5F, University of Tampa, Tampa, FL 33606**, before 5 January 1987.

### ARTHUR R. MARSHALL CHAIR IN ECOLOGY

The Department of Zoology at the University of Florida invites nominations and applications for this endowed chair from senior scholars of international standing. Ecological studies at the University of Florida are conducted in many departments, including Zoology, Botany, Entomology and Nematology, Wildlife and Range Sciences, Forestry, and Environmental Engineering Sciences, and in the Florida State Museum. The appointment will be made without regard to the subdiscipline of ecology.

Applications should include curriculum vitae and the names, addresses, and telephone numbers of five potential references. Closing date is 15 January 1987. Applications and inquiries should be sent to: **Brian K. McNab, Chair Search Committee, Department of Zoology, University of Florida, Gainesville, FL 32611; telephone: 904-392-1178**.

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

**MICROBIOLOGY / IMMUNOLOGY** — Assistant Professor—Tenure track, beginning August 1987. Commitment to undergraduate teaching and advising essential. Teaching includes microbiology, immunology, biological unity, and a nonmajors course on an intermittent basis. Ph.D. required, teaching experience preferred. Candidate is expected to develop a research program to include undergraduates. Send curriculum vitae, transcripts, reprints, and three letters of recommendation to: **Dr. Fred Punzo, Chairman, Division of Science and Math, Box 5F, University of Tampa, Tampa, FL 33606**, before 5 January 1987.

## POSITIONS OPEN

### CELL BIOLOGIST/VIROLOGIST

This position requires a Ph.D. with at least 2 years of postdoctoral experience coupled with in-depth experience in the large-scale culture of mammalian cells and cell line development. Industrial experience is preferred along with experience with human retroviruses. The successful candidate will possess strong interpersonal skills and the capacity to interact with production, Quality Assurance, and regulatory staff. Available immediately.

### CELLULAR PRODUCTS, INC.

**Cellular Products, Inc.** is located in upstate New York and offers competitive salaries and benefits, including relocation assistance. For prompt consideration, please forward your curriculum vitae along with salary requirements and the names of three references to: **Cellular Products, Inc., 688 Main Street, Buffalo, NY 14202, Attention: Director of Personnel**. All candidates must have U.S. citizenship or permanent resident VISA status. *Cellular Products, Inc. is an Equal Opportunity Employer.*

### CELL BIOLOGIST-BIOCHEMIST- PHYSIOLOGIST DEPARTMENT OF MOLECULAR BIOLOGY AND VIRUS LABORATORY UNIVERSITY OF CALIFORNIA, BERKELEY

Applications are invited for a postdoctoral research position in a study of the regulation of animal cell multiplication and transformation in culture under nutritional conditions which simulate those found in vivo. This calls for labeling and measuring DNA and protein quantitating cellular cations, demonstrating growth factors in lymph, evaluating limiting nutrients in the physiological range, and exploring regulatory steps in metabolic pathways. Experience in both cell culture and in biochemical analysis is highly desirable. The position will be available 1 December 1986 for up to 3 years. Interested persons should write describing their research interests, qualifications, current curriculum vitae, including publications, and list three or more references of qualified scientists to:

**Dr. Harry Rubin  
Department of Molecular Biology  
W. M. Stanley Hall  
University of California  
Berkeley, CA 94720**

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

### CHAIRPERSON

Applications and nominations are invited for the position of chairperson, Department of Biological Sciences at Northern Arizona University. Candidates are sought who have superior records of teaching, research, and grant support, and who have demonstrated leadership and administrative abilities. The successful candidate will be expected to maintain a vigorous research program. Candidates must hold a doctoral degree, have a minimum of 10 years of postdoctoral experience, and qualify for the academic rank of associate or full professor with tenure. Specialty is open, but should be complementary with the goals of the department. Salary, rank, and support are competitive. Northern Arizona University is a mid-sized comprehensive state-supported institution located at 7000 foot elevation at the base of the San Francisco Peaks. The department consists of 33 faculty members with a strong commitment to undergraduate programs in botany, zoology, and microbiology. Graduate offerings include M.S., M.A.T., and Ph.D. The position starts 1 July 1987. The search will remain open until the position is filled. Screening will begin 31 December 1986. Send updated résumé, brief statement of professional goals, and names, addresses, and telephone numbers of three to five referees to: **Biology Chair Search, Office of the Dean, College of Arts and Science, Box 5621, Northern Arizona University, Flagstaff, AZ 86011**. *Northern Arizona University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are urged to apply.*

**COMMUNITY ECOLOGIST.** Experience with plants and Southeast biota. Atlanta location. Closing date 28 November 1986. Send résumé to: **The Nature Conservancy, 1800 North Kent Street, Suite 800, Arlington, VA 22209**. Attention: H. Wieting, Jr.

## POSITIONS OPEN

### CHAIRMAN DEPARTMENT OF PATHOLOGY MORRISTOWN MEMORIAL HOSPITAL

Six hundred eighty-seven-bed (two sites) Columbia University-affiliated hospital in Northwestern New Jersey, seeking Board-certified pathologist to lead a large, well-developed department into the 21st century.

- Strong emphasis on surgical pathology.
- Knowledge of clinical pathology desirable.
- High degree of autonomy.
- Large staff of support personnel.

Send curriculum vitae, in confidence, to:

Search Committee—MMH  
c/o John Fenoglio, Jr., M.D.  
Acting Chairman, Department of Pathology  
Columbia University/College of Physicians  
and Surgeons  
630 West 168 Street  
New York, NY 10032

### CHAIRMAN DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOPHYSICS Virginia Commonwealth University School of Basic Health Sciences

We seek an individual with proven abilities in teaching, research, and leadership for the chairmanship of biochemistry and molecular biophysics in a department of the Health Sciences campus of Virginia Commonwealth University. The successful candidate must have a doctorate (Ph.D., M.D., or equivalent) and have risen through the academic ranks to the level meriting tenure as a professor. The successful candidate must have a track record of extramural grant support, peer-reviewed publications, and must be internationally recognized for research in protein biochemistry, membranes and receptors, enzymology, molecular aspects of regulation, or molecular biophysics. The successful candidate must have experience in graduate education, postdoctoral research training, health sciences teaching, and demonstrated capability for academic administration.

Applications including a complete curriculum vitae and names of three references should be sent to:

Secretary of the Search Committee for  
Chairman of Biochemistry and Molecular Biophysics  
School of Basic Health Sciences  
Virginia Commonwealth University  
MCV Station—Box 110  
Richmond, VA 23298-0001

Applications must be received by 5:00 p.m. on 1 January 1986. Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

### CHAIRPERSON DEPARTMENT OF PHYSIOLOGY THE UNIVERSITY OF VIRGINIA MEDICAL CENTER

Applications are invited for the position of professor and chairperson of the Department of Physiology at the University of Virginia Medical Center. Candidates must have a distinguished record of scholarship and professional achievement, and proven leadership and administrative ability. A curriculum vitae and names and addresses of three references should be submitted by 1 December 1986 to the chairman of the Search Committee at the following address:

Thomas W. Tillack, M.D., Chairman  
Department of Pathology  
University of Virginia Medical Center  
Box 214  
Charlottesville, VA 22908

An Equal Opportunity/Affirmative Action Employer.

**CLINICAL RESEARCH ASSOCIATE:** Recent Ph.D. in life sciences is needed to coordinate and document clinical studies used in support of PMAA for tumor marker assays to the FDA. Excellent organizational and communication skills are required. Knowledge of statistics, word processing, or database management would be beneficial. Send résumé in confidence to: Diagnostic Products Corporation Regulatory Affairs, 5700 West 96 Street, Los Angeles, CA 90045. No telephone calls please.

## Surface Protein Interaction Scientists

Becton Dickinson and Company Research Center has the following opportunities at its facility in Research Triangle Park, North Carolina:

### Enzymologist/Biochemist

Responsible for development of novel immunoassay formats and the design, preparation, characterization of covalently modified enzymes and antibodies. Requires PhD in Enzymology, Biochemistry or related field with 1 or more year's post-doctoral experience in immobilizing enzymes and proteins on solid supports. Familiarity with immunoassays desirable.

### Polymer Chemist

Responsible for design, preparation and characterization of functional polymer surfaces. Requires PhD in Polymer or Organic Chemistry with 1 or more year's post-doctoral experience in modification of polymeric surfaces and surface analysis with ESCA and/or ATR-FTIR techniques preferred.

We offer excellent salaries, comprehensive benefits and the opportunity to become a major contributor in a dynamic research organization. Please send resume indicating position of interest to: Human Resources Department, Becton Dickinson Research Center, P.O. Box 12016, Research Triangle Park, NC 27709. No agencies please. An equal opportunity/affirmative action employer.

**BECTON  
DICKINSON**

## Biochemist/ Cellular Immunologist



An equal opportunity employer

Pfizer Central Research has an opening for a PhD scientist in its Cancer Metastasis Drug Discovery Program. This well established research program has developed a number of projects in several areas targeting cancer metastasis. You will be responsible for developing new therapeutic approaches for arresting cancer metastasis. These approaches ideally will be based upon modulation of various components of the cellular immune system.

To qualify, you must have a PhD in biochemistry, cellular immunology or cell biology. You also must have a strong background in classical biochemistry and have applied this expertise in a post-doctoral setting to the study of the immunological aspects of cancer.

This position offers excellent opportunities for professional recognition and career development. We offer an excellent salary, benefit and relocation package plus an attractive southeastern Connecticut shore location. Qualified applicants should submit their resume, including the names, addresses and phone numbers of three professional references to: J.K. Larson, PhD, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.



## POSITIONS OPEN

### CHEMISTS PEPTIDE/ ORGANIC SYNTHESIS

A young and dynamic Long Island Biotechnology firm has immediate openings for career-minded chemists at senior level.

Responsibilities will include peptide synthesis/analysis in support of ongoing epitope research aimed at perfecting diagnostic kits for human pathogenic viruses, and implementation of a program of drug design for antiviral therapeutics. Qualifications include an advanced degree in organic chemistry with 3 to 5 years of experience in either peptide chemistry or drug design/organic synthesis. Familiarity with computer programming and the development of expert systems is a plus.

Salaries are competitive and commensurate with experience. Please send curriculum vitae in confidence to:

**Annemarie Schuler**  
Scientific Recruiting  
United Biomedical, Inc.  
2 Nevada Drive  
Lake Success, NY 11042

**CLINICAL INVESTIGATION—M.D./Ph.D./** Pharm.D. A prominent medical devices manufacturer, Cook Inc., seeks a project director to coordinate the pre-clinical testing and regulatory aspects of a new diagnostic drug with major potential. Liaison with international multicenters at medical schools, companies, governmental agencies and consultants, organization, and follow-up are required; experience with IND/NDA mechanisms is preferred. Position offers excellent salary and benefits in a very attractive setting in Southern California. Send curriculum vitae to: **Cook Imaging Inc., 3333 North Torrey Pines Court number 100, La Jolla, CA 92037.**

### CYTOGENETICIST

Seeking Ph.D. director for a new clinical cytogenetics laboratory located in Northern California. Must be capable of supervision of cytogenetic analysis of aminocytes and peripheral blood lymphocytes. Will participate in development of chorionic villus diagnoses. Laboratory will be operational in early 1987, and is not university affiliated. Salary competitive and commensurate with experience. Applicant must be licensed in the state of California.

Please send curriculum vitae, three references, and salary requirements to: **Box 198, SCIENCE.**

### DEAN OF AGRICULTURAL RESEARCH AND DIRECTOR OF THE SOUTH CAROLINA AGRICULTURAL EXPERIMENT STATION CLEMSON UNIVERSITY CLEMSON, SC

This administrative position is responsible for the research program of the College of Agricultural Sciences, which includes eleven departments and four experiment stations. The candidate should have an earned doctorate in one of the agricultural sciences. Salary is commensurate with qualifications and experience. The deadline for applications is 8 February 1987, or until a suitable candidate is found. Applicants should submit a letter of application, complete résumé, and names of five persons who will serve as references. Send to:

**Dr. Richard O. Hegg, Head**  
Agricultural Engineering Department  
Clemson University  
Clemson, SC 29634-0357

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

### DIRECTOR ECOLOGICAL RESEARCH INSTITUTE

**POINT REYES BIRD OBSERVATORY**—an established, non-profit ecological research institute (emphasis on birds), headquartered in Marin County, CA; projects worldwide.

Applicants must have proven fundraising, public relations, and management skills.

Initial salary negotiable within limits—anticipated in low 30's.

Telephone or write for application packet: 4990 Shoreline Highway, Stinson Beach, CA 94970, 415-868-1221. Completed applications must be filed by 31 December 1986.

## POSITIONS OPEN

### DEAN, McMICKEN COLLEGE OF ARTS AND SCIENCES UNIVERSITY OF CINCINNATI (UC)

The University of Cincinnati invites nominations and applications for the position of dean of the McMicken College of Arts and Sciences. The dean is the chief academic and executive officer of the college and reports to the senior vice president and provost. He or she will provide leadership and vision in the planning and execution of the continued growth of excellence in the teaching, research, and scholarly activities of the college; he or she will serve as an effective voice for the college in the broader community. The candidate must demonstrate an appreciation of the centrality of the arts and sciences in a major metropolitan university and an understanding of the role of faculty and administration in the shared governance of the university.

Candidates must have a distinguished record of scholarship commensurate with appointment to the rank of professor with tenure in an appropriate department of the college, and appropriate administrative experience. Salary is open and competitive. The position will be available 1 July 1987.

The committee will begin screening files on 1 December 1986, and will continue until the position is filled. Nominations and applications, including curriculum vitae and the names and addresses of three references, should be sent to: **C. W. Groetsch, Chair, Arts and Sciences Decanal Search Committee, M. L. number 138, University of Cincinnati, Cincinnati, OH 45221-0138.**

*UC is an Affirmative Action/Equal Opportunity Employer*

### DEAN GRADUATE SCHOOL OF MEDICAL SCIENCES

**The University of Tennessee, Memphis**

Nominations and applications are being accepted for the position of dean of the Graduate School of Medical Sciences at the University of Tennessee, Memphis. The dean reports directly to the chancellor and serves as chief academic and administrative officer for the school. The graduate school offers both master's and doctoral degrees through departments in the Colleges of Medicine and Pharmacy. Reporting directly to the dean of the Graduate School of Medical Sciences are the Departments of Biostatistics and Epidemiology, Computer Science, and Education; the Divisions of Biomedical Engineering and Animal Resources; and the UT Memphis Health Science Library. The University of Tennessee, Memphis is a large health science university comprising the Graduate School and the Colleges of Medicine, Dentistry, Pharmacy, Nursing, and Allied Health Sciences. Candidates for the position should possess an earned doctorate in one of the basic sciences, in biomedical engineering, biostatistics, epidemiology, education, or other disciplines relating to research in a major medical center. Candidates should be nationally recognized research scientists and have considerable experience as a departmental chairman or in a dean's office, or both. Applications should be accompanied by curriculum vitae and a listing of three references, submitted no later than 1 December 1986 to: **Bob A. Freeman, Ph.D., Vice Chancellor for Academic and Student Affairs, University of Tennessee, Memphis, 62 South Dunlap, Memphis, TN 38163. An Affirmative Action/Equal Opportunity Institution.**

### FACULTY POSITIONS IN ANATOMIC PATHOLOGY

The Department of Pathology at the College of Physicians and Surgeons of Columbia University invites applications for faculty positions in anatomic pathology at the assistant and associate professor level. Requirements include diagnostic expertise, teaching ability, and experience in the training of residents and fellows. Areas of diagnostic experience of particular interest are fine-needle cytopathology, obstetrics/gynecology, pathology, hematopathology, immunopathology, and pulmonary pathology. A record of publication is essential and applicants with research experience will be given a preference. Academic rank will depend on the applicant's qualifications. Send curriculum vitae and names of at least three referees to: **John J. Fenoglio, Jr., M.D., College of Physicians and Surgeons, Department of Pathology, 630 West 168 Street, New York, NY 10032. Columbia University is an Equal Opportunity Employer.**

## POSITIONS OPEN

### RICE UNIVERSITY DEAN OF NATURAL SCIENCES

Rice University invites letters of application and nomination for the position of dean of the Wiess School of Natural Sciences. This dean is responsible for the academic programs of all departments of the Wiess School, including biochemistry, biology, chemistry, geology and geophysics, mathematics, physics, and space physics, and astronomy. The dean reports directly to the provost of the university.

Rice University is a selective, independent, nonsectarian, coeducational center of learning whose academic programs include offerings at both the undergraduate and graduate levels in architecture, business, engineering, humanities, music, natural sciences, and social sciences. Its endowment is among the top ten in the nation. There are approximately 400 on the faculty, with a student population of about 4000, approximately one-fourth of whom are graduate students.

The university is conducting an internal and external search for the best qualified individual. Nominees or applicants should possess a strong record of scholarly achievement. Some experience in higher education administration is desirable. Letters of application or nomination should be sent to: **Dr. Richard E. Smalley, Chairman, Dean Search Committee, Rice University, P.O. Box 1892, Houston, TX 77251.** Letters must be received no later than 15 December 1986 to be considered. *Equal Opportunity/Affirmative Action Employer.*

### DIRECTOR CALIFORNIA PRIMATE RESEARCH CENTER University of California, Davis Davis, CA

Applications and nominations are invited for **Directorship of California Primate Research Center (CPRC)** available 1 July 1987. The director is responsible for management of the laboratory with 24 core and 64 affiliate scientists, 19 collaborating scientists, and 100 graduate students; overall management of research programs; administration through contracts between the *University of California and the Division of Research Resources, National Institutes of Health*, and 35 extramural grants and contracts. CPRC research programs relate to selected human health problems for which the nonhuman primate is the animal model of choice, and have a theme of effects of environmental influences. Major programs in developmental and reproductive biology, fetal and neonatal medicine, respiratory diseases, behavioral biology/pathobiology and primate medicine. The colony consists of approximately 2700 nonhuman primates.

An applicant should have demonstrated success in administration; be a scientist of stature who has made significant contributions in a biomedical field, and have an intent to remain active as an investigator. A background in some aspects of primatology is beneficial, but not essential. The director is expected to qualify for, and will be appointed to, a professional title in an appropriate department on the Davis campus.

Applicants should submit curriculum vitae with the names of three references to: **Dean E. A. Rhode, School of Veterinary Medicine, University of California, Davis, CA 95616**, by 31 December 1986.

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

### DIRECTOR OF SURGICAL PATHOLOGY

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

## AAAS MASS MEDIA SCIENCE AND ENGINEERING FELLOWS PROGRAM

The American Association for the Advancement of Science (AAAS) invites outstanding students in the natural and social sciences and engineering, preferably those at the graduate level, to apply for the 1986 Mass Media Science and Engineering Fellows Program. Students majoring in English, journalism, or other nontechnical fields are not eligible for these fellowships.

Fellows will work as reporters, researchers, production assistants, and script consultants for 10 weeks during the summer at newspapers, news magazines, and radio and television stations across the country. Fellows will have the opportunity to participate in the news-making process, to increase their understanding of editorial decision-making, and to develop skill in conveying to the public a better understanding and appreciation of science and technology.

AAAS pays a \$300 weekly stipend and travel expenses. Deadline for receipt of applications is 2 February 1987. *Minorities and persons with disabilities are especially encouraged to apply.*

For further information and applications, write:

Mass Media Science and Engineering  
Fellows Program  
AAAS  
1333 H Street, NW  
Washington, D.C. 20005

## Biometrician/ Biostatistician

Battelle, Pacific Northwest Laboratories has an opening for a senior level Biometrician/Biostatistician for its Marine Research Laboratory in Sequim, Washington.

Applicants must have the ability to initiate statistical research in environmental sampling methodology. Applicants must have a Ph.D. in statistics/biometry and possess a good working knowledge of applied and mathematical statistics as it relates to environmental issues. Preference will be given to individuals with demonstrated experience in spatial statistics, toxicology, chemometrics, non-linear modeling or sampling theory. The successful candidate will have experience in developing statistical methods, participating in interdisciplinary research, and a proven background in technical writing. Marketing of research capabilities to clients, proposal preparation and the supervision of project staff are additional responsibilities.

Interested candidates with a Ph.D. and at least three years' experience are invited to submit their curriculum vitae, reprints of three papers, a brief statement of research interests, and the names of three references to: Dr. John R. Skalski, Senior Research Scientist or Dr. John A. Strand, Manager Marine Sciences Section, Pacific Northwest Laboratories, Battelle, Marine Research Laboratory, 439 West Sequim Bay Road, Sequim, Washington 98382.

U.S. Citizenship Required  
An Equal Opportunity Employer M/F.



## Atherosclerosis Research

### Senior & Associate Research Scientists

CIBA-GEIGY Corporation, a world leader in pharmaceuticals research, has immediate openings for experienced scientists to join its Atherosclerosis Research Group.

#### Senior Scientist (Dept. 395)

We seek a scientist who will be expected to pursue innovative approaches to the control of the atherosclerotic disease process. To qualify, you must have a Ph.D in Biochemistry with at least 3 years' postdoctoral research experience working with lipoprotein lipid and apolipoprotein analysis and metabolism.

#### Associate Scientist (Dept. 401)

In this position you will support a biochemistry research team working with protein purification and lipoprotein separation and analysis. Requirements include a BS/BA or MS in Biochemistry, or a related field, plus training and experience in biochemistry and/or immunology.

#### Associate Scientist Computer Imaging (Dept. 402)

We seek a computer literate individual with a BS or MS in Biology or Biochemistry. An interest in applying techniques of image analysis to morphology immunohistochemistry and autoradiography is essential. Experience in animal handling and surgery would be helpful.

In return for your expertise, you'll find a research environment which encourages collaboration and the exchange of ideas. We offer an excellent salary and benefits package. For prompt and confidential consideration please forward a resume with salary history and requirements, indicating appropriate Department number, to: Stephen M. Mitchell, Manager of Technical Staffing, The Pharmaceuticals Division of CIBA-GEIGY Corporation, 556 Morris Avenue, Summit, NJ 07901. An Equal Opportunity Employer M/F/H/V.

# CIBA-GEIGY

Progress Through Innovation

## POSITIONS OPEN

### DIRECTOR OF THE WAMI MEDICAL PROGRAM IN IDAHO

Search Extended

The University of Idaho solicits nominations and applications for the position of director for Idaho's component of the WAMI (Washington, Alaska, Montana, Idaho) Regional Medical Education Program of the University of Washington School of Medicine. Position descriptions are available on requests made to the address below. Starting date is 1 July 1987. To apply please submit a letter of application, a résumé, and four original letters of reference by 1 December 1986, to: **Chair, WAMI Search Committee, College of Letters and Science, University of Idaho, Moscow, ID 83843.**

*The University of Idaho is an Equal Opportunity/Affirmative Action Employer and Educational Institution.*

### ELECTRON MICROSCOPY TECHNICAL DIRECTOR

Applicants sought who have experience in instruction, maintenance, and laboratory supervision in both TEM and SEM. Knowledge of EDX analysis and/or image analysis desired. Send résumé and three letters of reference by 28 November to: **Dr. Carol Heckman, Director, EM Facility, Department of Biological Sciences, Bowling Green State University, Bowling Green, OH 43403-0212. An Affirmative Action/Equal Opportunity Employer.**

**ENDOTHELIAL CELL RESEARCH.** Research associate/laboratory technician positions available at master's or bachelor's degree level for research with adult human endothelial cell cultures aimed at creating living endothelial linings on cardiovascular bypass grafts. Prior experience with mammalian cell culture or recombinant DNA techniques desirable. Contact or send resume to: **J. Sharefkin, M.D., Department of Surgery, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814; telephone: 202-295-3155.**

### EXECUTIVE

A growing Midwest pharmaceutical company is seeking an experienced administrator for a senior executive position. The successful applicant will have:

- 1) A Ph.D. in pharmacology or related science.
- 2) A minimum of 10 years of experience in the pharmaceutical industry beyond Ph.D.
- 3) Knowledge and experience in regulatory affairs.
- 4) A good research and development background.
- 5) Exposure to marketing and pharmaceutical manufacturing.
- 6) Clear and concise communication skills.
- 7) Demonstrated administrative ability.

The position is available immediately. Send curriculum vitae to: **Box 197, SCIENCE.**

**TENURE-TRACK FACULTY POSITION—BIOCHEMISTRY/ORGANIC: ASSISTANT PROFESSOR,** beginning August 1987. Ph.D. in chemistry required, with a strong background in both biochemistry and organic chemistry; beginning at \$27,955 for 9 months, commensurate with experience. Postdoctoral research or teaching experience required. Successful applicant will carry a standard load of 60 percent teaching, 20 percent research, and 20 percent service; instructional duties will involve teaching three 3-hour courses (or equivalent) per semester; supervision of undergraduate research will be expected. The Chemistry Department consists of four full-time faculty with a wide range of research interests, and currently offers a bachelor's degree in chemistry, with a biochemistry option. Plans are being developed to begin a master's degree program in chemistry in the near future; currently the faculty work with some of the graduate students in the Biology Program who pursue advanced chemistry courses. Besides the degree program, the department supports a growing Engineering School, and a School of Nursing and Health Sciences.

Send curriculum vitae, statement of teaching and research goals, and three letters of recommendation, plus graduate transcripts to: **Personnel Services, University of Alaska, Anchorage (UAA), 3211 Providence Drive, Anchorage, AK 99508.** Closing date, 31 December 1986. *UAA is an Equal Opportunity/Affirmative Action Employer and educational institution.*

## POSITIONS OPEN

**The Department of Biochemistry, Vanderbilt University** is seeking candidates for one—or possibly two—**faculty positions** in the area of **protein x-ray crystallography.** Appointments may be made at any rank; however, some preference will be given to candidates who are experienced, active investigators in the field. Please send curriculum vitae, a description of research interests, and the names and addresses of three persons who would be willing to write letters of recommendation to: **Dr. James V. Staros, Chairman, Faculty Search Committee, Department of Biochemistry, Vanderbilt University, School of Medicine, Nashville, TN 37232. Vanderbilt University is an Equal Opportunity Employer.**

**School for Field Studies** seeks qualified **FACULTY** (Ph.D./M.S., field leadership, and on-site research experience) for undergraduate semester course in marine biology (Virgin Islands) and 1-month summer courses in Acid Rain (United States, Germany), Coral Reef Ecology (Virgin Islands), Endangered Species (Switzerland), Medicinal Botany (Ecuador), Deforestation (Costa Rica), Resource Conservation and Population Dynamics of Harbor Seals (Alaska), and Humpback Whale Ecology (Gulf of Maine). Salary: \$1500 to \$2000 per month, plus travel/field expenses. Send letter, curriculum vitae, and three references to: **Director of Programs, SFS, 376 Hale Street, Beverly, MA 01915.**

**FACULTY POSITIONS.** The Department of Physics of City College anticipates two or three tenure-track openings during the next 2 years at the level of assistant or associate professor. Appointment at the level of professor may be possible for an outstanding candidate. Areas of active research in the department include astrophysics, atomic physics, biophysics, condensed matter physics, high energy physics, fluid physics, medical physics, optics, and statistical mechanics. To be considered for September 1987, applicants should send their résumé by 15 February 1987 to: **Professor Ngee-Pong Chang, Chairman, Department of Physics, CITY COLLEGE OF CUNY, Convent Avenue and 138th Street, New York, NY 10031. An Affirmative Action/Equal Opportunity Employer, M/F.**

A faculty position for an **assistant professor of neurosurgery** at the University of Michigan will be available July 1987. Clinical, teaching, and research responsibilities are included, with primary responsibility at the Ann Arbor Veterans Administration Hospital.

Apply to:

**Julian T. Hoff, M.D.  
Head, Section of Neurosurgery  
University of Michigan  
2128 Taubman Center  
Box 0338  
1500 East Medical Center Drive  
Ann Arbor, MI 48109.**

*The University of Michigan is a non-discriminatory, Affirmative Action Employer.*

### FACULTY POSITION

**The Department of Pharmacology at the University of Colorado School of Medicine** has an opening for a faculty member at the **assistant professor** level in the tenure track. Applicants must have a Ph.D. degree and/or the M.D. degree and at least 2 years of postdoctoral research experience. Special consideration will be given to individuals with a research background in molecular or cellular biology studying problems relevant to pharmacology, but applications from outstanding candidates in neuroendocrine pharmacology, immunopharmacology, or drug metabolism and disposition will also be welcome.

Applications, which should include curriculum vitae, list of publications, reprints or preprints of three or four papers, and names of at least three individuals willing to supply letters of reference, should be submitted prior to 31 December 1986 to:

**Dr. James L. Maller, Chairman  
Faculty Search Committee  
Department of Pharmacology (C236)  
University of Colorado School of Medicine  
4200 East 9 Avenue  
Denver, CO 80262**

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

## POSITIONS OPEN

### THE UNIVERSITY OF IOWA

**FACULTY POSITION IN BIOCHEMISTRY**—The department invites applications and nominations for a tenure-track position at the level of assistant professor. Applicants must hold a doctoral degree, and preferably should have postdoctoral experience. Applicants with expertise in any area of biochemistry or closely-related disciplines will be considered; however, we are especially interested in applicants with expertise in regulation of eukaryotic gene expression. Responsibilities will include the development of a vigorous, independent program of scholarly research and participation in the department's teaching programs for undergraduate, graduate, and professional students. Women and minority candidates are especially encouraged to apply. Applicants should send curriculum vitae, including a list of publications and summary of future research plans, and arrange to have three letters of reference sent to: **Dr. Peter Rubenstein, Chairman, Faculty Search Committee, Department of Biochemistry, College of Medicine, University of Iowa, Iowa City, IA 52242.** Formal screening of candidates will begin 1 January 1987. *The University of Iowa is an Equal Opportunity and Affirmative Action Employer.*

**FACULTY POSITION**—University of North Carolina at Chapel Hill. The Lineberger Cancer Research Center of the University of North Carolina at Chapel Hill has a new tenure-track position available in its interdisciplinary cancer cell biology program. Areas of research interest include the regulation of cell growth, gene expression, differentiation, and neoplastic transformation. Academic rank and department affiliation will be determined by the applicant's credentials. Excellent laboratory space and start-up funds are available. Please send curriculum vitae and names of three references to: **Shirley O'Keefe, Assistant Director, Lineberger Cancer Research Center 237H, University of North Carolina, Chapel Hill, NC 27514. The University of North Carolina is an Affirmative Action/Equal Opportunity Employer.**

**The University of Michigan Medical Center Emergency Services and General Surgery** announces a 2-year, **POSTDOCTORAL TRAINING PROGRAM** in emergency and trauma surgery with an emphasis on trauma research, emergency, and critical care of traumatic injuries. This is a 2-year instructor level position.

Apply to:

**Richard E. Burney, M.D.  
Interim Head, Section of Emergency Services  
Department of Surgery  
University of Michigan Medical Center  
BIC255 UH Box 0014  
University Hospital  
Ann Arbor, MI 48109**

*The University of Michigan is a non-discriminatory, Affirmative Action Employer.*

Board-certified or Board-eligible **THORACIC SURGEON** in the Department of Surgery, Section of Thoracic Surgery, University of Michigan Hospitals. Level of academic appointment will be commensurate with background and experience.

Duties include participation in the clinical, research, and teaching activities of the Section of Thoracic Surgery, both at the university and Ann Arbor Veterans' Hospitals. Minimum qualifications include Board-certification or -eligibility in thoracic surgery, skill in surgical treatment of thoracic disease, both general and cardiac, and leadership and administrative qualities. Expertise in congenital heart disease, cardiac transplantation, mechanical cardiac assist devices, and/or esophageal surgery. Experience and interest in a research area related to thoracic surgery preferred.

Apply to:

**Mark B. Orringer, M.D.  
Professor and Head, Section of Thoracic Surgery  
University Hospitals  
2210 F-TC Box 0344  
500 East Medical Center Drive  
Ann Arbor, MI 48109**

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

## CONGRESSIONAL SCIENCE AND ENGINEERING FELLOWSHIPS

### Applications Invited

The American Association for the Advancement of Science (AAAS) invites applications for two 1-year Congressional Science and Engineering Fellowships it will offer for the period beginning 1 September 1987. The Fellowship Program provides an opportunity for accomplished and societally aware postdoctoral to mid-career scientists and engineers to participate in and contribute to the public policy-making processes within the Congress for approximately 1 year. Fellows work as special legislative assistants within the congressional staff system.

Persons may apply from any physical, biological, or behavioral science or any field of engineering. The term "science" is used broadly to include the system sciences, public health, and other technical professions. In addition to the fellowships awarded by the AAAS, about 15 others are given by other participating professional societies. The AAAS runs a year-long educational program for the set of Congressional Science and Engineering Fellows. Addresses of all participating societies are available from the address listed below.

The 1987-1988 AAAS Congressional Science and Engineering Fellows will receive a stipend of \$26,500; an additional \$1,500 is available for relocation expenses and travel in connection with the Program.

In order to obtain detailed information on the program and specific application requirements, write:

**Congressional Science and Engineering Fellows Program**  
**American Association for the Advancement of Science**  
1333 H Street, NW  
Washington, D.C. 20005

The deadline for application is 15 January 1987. The award will be announced around 1 May 1987.

## BIOCHEMIST

Squibb is recognized as an international leader in the research and development of pharmaceutical products. Due to our continued growth, we are currently seeking a biochemist to join our research efforts in the Department of Microbial Biochemistry and Genetics. The position requires a Ph.D. and one to three years of related postdoctoral experience.

The successful candidate will have demonstrated a strong background in protein purification and enzyme studies. You will be expected to participate in research in herpes virus replication as part of a developing antiviral program.

This position is located at The Squibb Institute for Medical Research in Princeton, N.J.; a pleasant, semi-rural setting convenient to both Philadelphia and New York City. In addition to an excellent salary and comprehensive benefits package, we offer the opportunity for exceptional scientists to pursue stimulating careers.

For confidential consideration, please submit your resume to: **The Squibb Institute for Medical Research, Human Resources Department 417, P.O. Box 4000, Princeton, NJ 08543-4000.** An equal opportunity employer.



# SQUIBB

Where science comes to life.

## RESEARCH SCIENTISTS AND ASSOCIATES

**Amgen**, an industry leader in advanced biotechnology, develops products for significant applications, including human therapeutics, human diagnostics, animal health care, and specialty chemicals. Rapid progress in the development of product candidates and our commitment to innovation necessitates the addition of a select number of highly qualified staff who possess a record of research excellence.

**Research Scientists** should possess an appropriate Ph.D. degree with several years of related post doctoral experience, while **Research Associates** will have a B.S. or M.S. degree and 2-3 years of related experience.

### Pharmacology

Conduct basic and applied *in vivo* and *in vitro* studies in the following areas: pituitary hormones, growth factors, metabolism, and drug delivery systems. Background must include experience in physiology or endocrinology. Knowledge of computers and statistics is helpful. Experience in surgical techniques, drug administration, and use of physiological and biochemical monitoring instrumentation is desirable. (Dept. 18)

### Protein Chemistry

Involves the purification and characterization (biochemical/biophysical) of natural and recombinant DNA derived proteins. Background in protein biochemistry, biophysics, polymers or surface chemistry. Knowledge of formulation and drug delivery for protein products is desirable. (Dept. 240)

**Amgen** offers an attractive compensation and benefits package and a dynamic and stimulating environment and is located in an attractive community about an hour northwest of Los Angeles. Qualified candidates are requested to forward a resume and the names of three references to:

**Recruitment, (Specify Dept. #)**  
**AMGEN**  
1900 Oak Terrace Lane  
Thousand Oaks, CA 91320



Equal Opportunity Employer

## POSITIONS OPEN

### THE UNIVERSITY OF MICHIGAN Department of Atmospheric and Oceanic Science

Aeronomy/space plasma physics/planetary atmospheres/University of Michigan. The Department of Atmospheric and Oceanic Science invites applications for tenure-track faculty positions with a preference in aeronomy, space plasma physics, and/or planetary atmospheres, although qualified candidates in related areas such as atmospheric chemistry will be considered. A successful candidate will be expected to participate in the instructional program at the graduate and undergraduate levels and carry out an active research program. Faculty rank and salary will be commensurate with qualifications. Send résumé, a list of three or more references, and other relevant information to: Professor Thomas M. Donahue, Faculty Search Committee, Department of Atmospheric and Oceanic Science, 2455 Hayward, Ann Arbor, MI 48109-2143. The University of Michigan is a non-discriminatory/Affirmative Action Employer.

### GEORGIA SOUTHWESTERN COLLEGE BIOLOGY

The Department of Biology, Georgia Southwestern College, invites applications for a tenure-track position to begin September 1987. A Ph.D. is preferred. Teaching duties will include entry-level biology; introductory human anatomy and physiology; and some upper-level biology courses. Expertise in an area of vertebrate biology, such as ichthyology, herpetology, ornithology, or mammalogy, is desirable. Although this is primarily a teaching position, research interest is encouraged. Salary and rank commensurate with education and experience.

Applicants should submit curriculum vitae, a statement of professional goals, and names, addresses, and telephone numbers of at least three references by 15 January 1987 to: Dr. William L. Tietjen, Chairman, Department of Biology, Georgia Southwestern College, Americus, GA 31709. Telephone: 912-928-1250.

Georgia Southwestern College is an Affirmative Action/Equal Opportunity Employer and a Senior Unit of The University System of Georgia.

### FACULTY POSITION IN PHARMACEUTICS FACULTY OF PHARMACY UNIVERSITY OF TORONTO

The Faculty of Pharmacy at the University of Toronto is seeking applicants for a tenure-track position in pharmaceuticals/physical pharmacy. The successful applicant will be expected to teach in the undergraduate and graduate pharmaceuticals programs, and develop an active graduate and research program. Desirable areas of research interest include novel drug delivery systems, properties of matter related to dosage form design or product formulation. There is a major concentration of Canadian Pharmaceutical Industry in the Toronto area.

Rank and salary will be dependent upon qualifications and experience. Interested persons should submit a current curriculum vitae and arrange to have three letters of reference sent by 15 January 1987 to:

Dean D. G. Perrier  
Faculty of Pharmacy  
University of Toronto  
19 Russell Street  
Toronto, Ontario  
Canada M5S 1A1

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and landed immigrants.

### FACULTY POSITION AVAILABLE

The Department of Biomedical Engineering at Duke University invites applications for tenured/tenure-track faculty positions. Candidates with interests in sensors, instrumentation, cardiovascular technology, imaging, biomechanics, or related areas of biomedical engineering are encouraged to apply. Successful candidates will be expected to develop an active research program and to teach courses at both the graduate and undergraduate level. Interested persons should send a complete résumé, a description of research interests, and names and addresses of at least three references to: Professor James McElhane, Chairman, Department of Biomedical Engineering, Duke University, Durham, NC 27706. Duke University is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### UNIVERSITY OF UTAH DEPARTMENT OF BIOCHEMISTRY

Two tenure-track positions are available for autumn 1987. Preference will be given to applicants at the level of assistant professor, but candidates for associate professor will also be considered. Applicants should hold a doctoral degree, have postdoctoral experience, and demonstrable research ability. Although areas of research are open, they should fall into the broad province traditionally understood as being biochemistry. Teaching responsibilities are largely to graduate and medical students. Interested individuals should submit curriculum vitae, a statement of research background and interests, and three letters of recommendation to: Faculty Search Committee, Department of Biochemistry, University of Utah School of Medicine, Salt Lake City, UT 84132. Deadline for applications is 31 December 1986; late applications may be considered if openings are still available. Equal Opportunity/Affirmative Action Employer.

### TWO FACULTY POSITIONS IN BIOLOGICAL SCIENCES

The Department of Biological Sciences, San Jose State University (SJSU), invites applications for two tenure-track positions to begin August 1987. Applicants must have an earned doctorate and teaching experience. Postdoctoral research experience is desired. (1) plant molecular biologist, at the assistant professor level. The successful candidate will be expected to teach courses in plant molecular biology, molecular biology and botany, and to advise undergraduate students. Involvement in the master's degree program and research are expected. (2) medical microbiologist, at the assistant/associate professor level. The successful candidate should have a broad background in medical microbiology and is expected to teach medical microbiology and advanced subjects in areas of expertise, advise undergraduate and graduate students, and make significant professional contributions. Send completed applications, including transcripts, curriculum vitae, a statement of professional goals, and three letters of reference by 15 January 1987 to: Dr. Wayne Savage, Chairman, Department of Biological Sciences, San Jose State University, San Jose, CA 95192. SJSU is an Equal Opportunity/Affirmative Action/Title IX Employer.

### MOLECULAR BIOLOGIST LABORATORY FOR CELL, MOLECULAR AND DEVELOPMENTAL BIOLOGY (LCMDB) UNIVERSITY OF ILLINOIS AT CHICAGO

The Department of Biological Sciences of the University of Illinois at Chicago seeks a senior molecular biologist to join the LABORATORY FOR CELL, MOLECULAR, AND DEVELOPMENTAL BIOLOGY. The appointment will be at the rank of full professor with tenure. The appointee will coordinate current programs and ongoing development of the Laboratory.

The Laboratory for Cell, Molecular, and Developmental Biology was established to consolidate research and training programs in modern cellular, molecular, and developmental biology, and represents one facet of a campus-wide commitment to foster excellence in the areas of molecular biology and biotechnology. Permanent funding exists for LCMDB support staff, graduate fellowships, postdoctoral fellowships, new equipment, and facilities. Salary lines for the recruitment of junior faculty are also available.

The candidate should have a Ph.D. degree, currently hold the rank of associate or full professor (or equivalent), have an exceptional and ongoing record of research accomplishment, and be recognized as a leader in his or her field. Specific research specialty is open, but should be in an area central to molecular biology and/or molecular genetics.

The position will be available 1 July 1987. Salary is competitive. Applicants should submit curriculum vitae and the names of three references. Applications will be accepted until 1 February 1987, or until the position is filled. Applications, nominations, or inquiries should be directed to: Dr. Brian Nichols, Senior Molecular Biologist Search Committee, Department of Biological Sciences m/c 067, University of Illinois at Chicago, P.O. Box 4348, Chicago, IL 60608; telephone: 312-996-5064. The University of Illinois at Chicago is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### FACULTY POSITION

#### Department of Medical Biochemistry and Genetics

The Department of Medical Biochemistry and Genetics invites applications for a junior or senior level, tenure-track faculty position. Salary and rank are open and dependent upon qualifications. As part of a rapidly expanding research community, candidates are expected to establish or maintain a vigorous research program and participate in medical and graduate instruction. Applications from individuals with research interests in any area of biochemistry or molecular genetics are encouraged. Submit curriculum vitae, description of research interests, and names of three references to: Search Committee, Department of Medical Biochemistry and Genetics, College of Medicine, Texas A&M University, College Station, TX 77843-1112. Equal Opportunity/Affirmative Action Employer.

**PHYSICAL CHEMIST**—University of Michigan (UM)—Flint. Tenure-track position, assistant professor in physical chemistry. Ph.D. in physical chemistry, ongoing research program which has or can soon be expected to result in publication, and strong interest in undergraduate teaching required.

UM-Flint, established in 1956, is an urban regional campus being built in the city. Enrollment is approximately 6000.

Submit letter of application, curriculum vitae, transcripts, and names of three references by 8 January 1987 to: Professor H. Blecker, Chairman, Department of Chemistry, The University of Michigan—Flint, Flint, MI 48502-2186. UM-Flint is an Affirmative Action/Equal Opportunity Employer.

**HAZARDOUS MATERIALS LABORATORY MANAGER**—Experienced scientist or engineer with demonstrated analytical laboratory and staff management skills. Contract research and/or industrial experience preferred. Will be responsible for planning and operation of a major \$9 million, 43,000 square foot Hazardous Materials Laboratory. Salary \$40,000 to \$50,000 per annum. Closing date 1 January 1987. Submit résumé and three letters of reference to: Dr. David L. Thomas, Hazardous Waste Research and Information Center, 1808 Woodfield Drive, Savoy, IL 61874. Equal Opportunity/Affirmative Action Employer.

### HEAD, DEPARTMENT OF ANATOMY

Applications are invited for the position of head of the Department of Anatomy, College of Medicine, University of Saskatchewan. The appointment will be effective 1 July 1987; however, a later starting date may be negotiated.

Candidates should have a broadly based background in morphological sciences to enable them to direct the activities of a department that has responsibility for teaching Cell Biology, Developmental Biology, Gross Anatomy, Histology, and Neurobiology. Courses are offered at the undergraduate level to medical, dental, paramedical, and arts and science students; graduate programs are offered to M.Sc. and Ph.D. candidates.

Selection of the successful candidate will be made on the basis of demonstrated research activity, leadership, and interest in teaching. Prior administrative experience is desirable.

The department has a faculty of 12 with research interests ranging from functional anatomy to cellular morphology and biochemistry. Facilities for the application of cell culture methods to biological problems are outstanding and an international summer course in cell culture methods is given annually.

Applications should include a summary of academic experience and research expertise and a complete curriculum vitae. Arrangements should be made for three letters of recommendation to be sent directly to: The Chairman of the Search Committee, Dr. I. M. McDonald, Dean of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0 Canada.

All material should be received by 15 January 1987.

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



# Scientists

We are currently assisting clients throughout the United States in staffing various industrial research and product development positions. Openings are primarily at the Ph.D. level; several require supervisory experience; others are suitable for new graduates or post-docs. Typical areas of interest include:

## **Immunology**

Polyclonal and monoclonal antibody isolation, purification and characterization; lymphokines and related regulator systems; cell surface antigens; receptor structure/function studies; tumor/oncology immunology.

## **Molecular Biology/Genetics**

DNA probe development; neuron viability factors; gene library construction; cell transformation mechanisms; vector development; gene sequencing; prokaryote and eukaryote cloning; neurobiology.

## **Biochemistry**

Protein and enzyme isolation, purification and characterization; physical chemistry of biopolymers; antibody modification; receptor assay development; peptide design and synthesis; nucleic acid and protein sequencing and synthesis; analytical methods development; novel protein separation technology; HPLC applications.

## **Microbiology/Cell Biology**

Yeast genetics; microbial physiology; industrial microbiology; large-scale tissue culture; hybrid cytogenetics; characterization of recombinant organisms.

For confidential consideration, please submit a current resume, including salary history, to Alfred R. Doig, Vice President, (M.S., Biochemical Engineering, MIT). Our client companies assume all fees.

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# D.P. Parker

and Associates, Incorporated  
40 William St., Wellesley, MA 02181  
Telephone (617) 237-1220

Our clients are equal opportunity employers M/F/V/H.

## POSTDOCTORAL POSITION In-Vivo NMR

Henry Ford Hospital, a 1,000-bed teaching healthcare facility has immediate opportunities available in its expanding Neurology Department. Two post-doctoral positions are available immediately to conduct research in the applications of in-vivo NMR in clinical and animal systems. Projects include studies of cerebral metabolism and stroke, cancer treatment and management, cardiac metabolism and others. A Ph.D. or M.D. is required and the applicants should have a background in NMR spectroscopy or imaging and/or biochemistry or physics. Instrumentation includes a 2 T whole body imaging/spectrometer systems and acquisition of 4.7 T, 40 cm bore spectrometer and a 9.4 T, 8.9 cm bore spectrometer in 1987.

As well as professional development, we offer a salary commensurate with qualifications and excellent benefits package.

Interested applicants should send a current curriculum vitae and the names of three references to:

**Dr. Michael B. Smith, Director  
NMR Research Facility  
Department of Neurology**

*Henry Ford Hospital*

**2799 West Grand Boulevard  
Detroit, MI 48202**

*Henry Ford Hospital is an Equal Opportunity Employer M/F/H*

## MOLECULAR/CELLULAR NEUROBIOLOGIST

Applications are invited from scientists holding a doctorate in biochemistry/cell biology/molecular genetics or a related field for a position at the Mental Health Research Institute of the University of Michigan. The present MHRI staff includes ten independent research groups engaged in basic neuroscience research.

Level of appointment and salary will be commensurate with experience and qualifications. Applicants should have a Ph.D. and/or M.D., at least two years post-doctoral research training, and a strong commitment to a research career in the neurosciences.

Successful applicants will devote the majority of their time to the establishment of original, independent, research programs within the Institute. It is also expected that the applicant will hold a joint appointment in an appropriate academic department of the University. Access to graduate students and post-doctoral fellows is via relevant departments and interdepartmental degree programs. An interdisciplinary training program provides stipends for M.D. and Ph.D. research fellows. Investigator's salaries are supported by the Institute.

The deadline is December 31, 1986. Applications should be accompanied by a curriculum vitae, a statement of research interests, selected papers, and the names of three references to: **Stanley Watson, M.D., Ph.D., Associate Director, Mental Health Research Institute, 205 Washtenaw Pl., The University of Michigan, Ann Arbor, MI 48109.**

**UNIVERSITY OF MICHIGAN**

*An equal opportunity/affirmative action employer*

## CARDIAC PHYSIOLOGIST/ BIOCHEMIST

Due to the success of our current research programs, Norwich Eaton Pharmaceuticals, Inc., a wholly-owned subsidiary of The Procter & Gamble Company, has a Senior Staff Scientist position available in its Research and Development Department for a highly-motivated professional in the area of cardiac disease pathophysiology and drug discovery.

This position will involve the design, preparation and execution of studies to determine the pathophysiology of congestive heart failure and the mechanism of action of novel cardioactive drugs. The preferred candidate will have a Ph.D. degree in cardiovascular physiology or biochemistry, with 0-5 years of postdoctoral experience. Experience with cardiac fibers (skinned and unskinned) and with subcellular fractions of cardiac tissue is desired. Excellent oral and written communication skills are essential.

Norwich Eaton is in a beautiful rural location in Central New York State in the Syracuse-Binghamton-Utica triangle, 250 miles northwest of New York City. Besides offering a stimulating environment for professional growth, the Company provides a competitive employment package including paid relocation, and company-paid health, dental and retirement benefits. Some of Norwich Eaton Rx products include Macro-dantin®, Dantrium®, Sarenin®, Vivonex®, Entex LA® and Buprenex®. Resumes and inquiries should be addressed to:

Nicholas W. Andrews  
Personnel Representative  
Norwich Eaton Pharmaceuticals, Inc.  
A Procter & Gamble Company  
17 Eaton Avenue  
Norwich, New York 13815 U.S.A.

## Molecular Biology/ Yeast Genetics

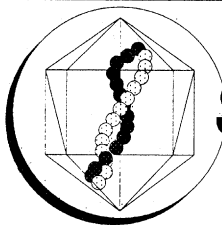
Smith Kline & French Laboratories, a leader in pharmaceutical research, is seeking additional senior scientific staff to expand its current research programs employing recombinant DNA technology and other genetic approaches to develop novel therapeutic agents.

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

The Department of Molecular Genetics is seeking an outstanding Scientist with a Ph.D. in Microbiology, Biochemistry or equivalent and 2 to 3 years of postdoctoral experience in the area of yeast molecular biology, genetics and gene expression. The responsibilities of this position will include research centered on the expression and secretion of heterologous proteins in a yeast system.

We offer an excellent compensation, benefits and relocation package as well as opportunities for personal and professional growth. Publication of research results is encouraged and supported. For confidential review, please forward your C.V. and names of three references to: Robert F. Obst, R&D Employment Consultant, SmithKline Beckman Corporation, 1584 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

**SK&F**  
A SmithKline Beckman Company



## STRATAGENE CLONING SYSTEMS

Stratagene is an innovator in research products for molecular biology. The company is now expanding its focus and plans to utilize its proprietary technologies in areas related to gene prognosis, gene expression in transgenic animals, and chemical mutagenicity testing. Positions are available at several levels.

### Staff Scientist

Applicants should have a doctorate degree in Molecular Biology or Biochemistry and significant laboratory experience with a broad range of technologies, including nucleic acid hybridization, gene cloning and subcloning, and DNA sequencing. Candidates should demonstrate their productivity and ability to function independently within the laboratory setting. Good writing and interpersonal skills are also required. Staff Scientists are expected to continue publishing and to move to the forefront of their area of focus.

### Research Associate

Applicants should have a B.S. or M.S. in Molecular Biology or Biochemistry and 2 or more years of relevant laboratory experience. Experience with nucleic acid hybridization, gene cloning and subcloning, and DNA sequencing is expected. Candidates should have the ability to function independently within the laboratory setting. Good interpersonal skills are required.

Stratagene provides a unique working environment. The company is growing rapidly and encourages group involvement in major decisions and policy. A generous stock option plan is available, in addition to standard fringe benefits. Stratagene is located within an important center for biotechnology. It is three miles from the University of California and several other major research institutes. Recreational opportunities are plentiful, being just minutes from the beach. Salaries are excellent.

Stratagene encourages scientists with an entrepreneurial spirit. Creativity and productivity are acknowledged and rewarded. The opportunity for advancement within the company is exceptional.

Please send resumes  
and three references to

Ms. Sandra Carter  
Stratagene Cloning Systems  
3770 Tansy Street  
San Diego, CA 92121

## NEUROSCIENTIST Ph.D. LEVEL PHARMACEUTICAL RESEARCH

The Pharmaceutical Research Division of Warner-Lambert/Parke-Davis has an immediate opening for a scientist to join the Neuroscience Section within our Pharmacology Department. The selected candidate will participate in a multidisciplinary effort to discover drugs for the treatment of age-related cognitive and neurodegenerative disorders such as Alzheimer's Disease.

Successful applicants will possess the following:

- A Ph.D. or equivalent in a neuroscience-related discipline
- 1-3 years postdoctoral research experience in neurotropic factors
- Excellent oral and written communication skills as well as a documented record of research excellence.

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

**WARNER  
LAMBERT**

"EQUAL OPPORTUNITY IN ACTION"

## POSTDOCTORAL FELLOWSHIPS at the Woods Hole Oceanographic Institution

### Ocean Science and Engineering

Applications are invited from new or recent doctorates in science or engineering with interests in physical oceanography, marine chemistry, marine geology and geophysics, biological oceanography, or oceanographic engineering. Recipients of awards are selected on a competitive basis, with primary emphasis placed on research promise.

### Marine Biomedical Research

Applications are invited from new or recent doctorates with interest and expertise in traditional areas of basic biomedical research, such as toxicology and pharmacology, reproductive biology, biochemistry, and molecular biology, as well as in the area of natural products to be applied to research in the development and use of marine models for biomedical research, and understanding of the chemical ecology of marine animals.

### Marine Policy and Ocean Management

Research fellowships are offered to individuals in the social sciences, law, the humanities, or natural sciences to apply their training to problems or issues that involve the use of the oceans. Presently research follows thematic areas such as Marine Science and Public Policy; Development and Management of Ocean Resources; Ocean Jurisdictions, Law of the Sea, and International Relations; and Areawide Planning and Management. Emphasis is placed on the economics of ocean space and on the role of science in governmental and industrial decision making. Other research interests are also appropriate.

*Fellowships are awarded for one year with a stipend of \$24,000 plus group health insurance and a modest research budget. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by 15 January 1987 for 1987-88 awards. Awards will be announced in early March. Write for application forms to:*

**Dean of Graduate Studies**

**P.O. Box 5**

**Woods Hole Oceanographic Institution  
Woods Hole, Massachusetts 02543**

Equal Opportunity/Affirmative Action Institution

## Senior Scientist Drug Delivery Systems

The Pharmaceutical Research and Technologies Department of Smith Kline & French Laboratories is seeking several senior level scientists to conduct research in the design and fabrication of oral solid (controlled and immediate release) and liquid/semi-solid (oral liquid, parenteral and aerosol) drug delivery systems.

### Associate Senior Investigator

We are recruiting scientists for positions in both the oral and liquid/semi-solid groups. The successful candidate will have a Ph.D. in Pharmaceuticals or allied disciplines with 0-3 years of industrial experience.

### Senior Investigator

We are recruiting scientists for positions in both oral and liquid/semi-solid groups. The successful candidate will have a Ph.D. in Pharmaceuticals or allied disciplines with at least four years of industrial experience including supervisory responsibility.

Located in suburban Philadelphia, near Valley Forge, Pennsylvania, our new state-of-the-art research complex has been designed to provide a unique environment conducive to fundamental scientific research of the highest caliber. Accordingly, staff are expected to engage in personal research activities leading to publications.

We offer an excellent compensation, benefits and relocation package as well as opportunities for personal and professional growth. For confidential consideration, please forward your C.V. and the names of three references to Robert F. Obst, R&D Employment Consultant, SmithKline Beckman Corporation, 1582 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

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## MICROBIOLOGY Research & Development

DIFCO Laboratories, a world leader in products for the microbiology laboratory since 1895, seeks scientists/developers for an expanding effort in immunodiagnostics and microbial metabolism at the new, state-of-the-art, research and development facility in Ann Arbor, Michigan.

### Program Director, Immunodiagnostics

The challenging position offers opportunities to direct sizable groups with several Ph.D. level scientists. Candidates should have a Ph.D. in a chemistry-based science and at least eight years of professional experience relating to immunodiagnostics.

### Scientist/Senior Scientist, Immunodiagnostics

Scientists are sought with backgrounds in virology, immunology or chemistry to direct groups involved in development of rapid infectious disease tests. Experience in assay format and automation is desired. Candidates should have a Ph.D. with 1-6 years of postdoctoral experience.

### Scientist/Senior Scientist, Microbial Metabolism

Positions are open for scientists with fundamental training in bacteriology relating to microbial physiology, antibiotic sensitivity testing, or clinical microbiology. Candidates should have a M.S. or Ph.D. with solid training in bacteriology and/or biochemistry for projects directed at infectious disease testing and industrial based assay systems.

### Specialist, Technical Resources

Positions entail sourcing, negotiation and acquisition of outside technologies and products. Candidates should have good people skills and a thorough understanding of current technologies in microbiology and infectious disease testing. B.S. through Ph.D. levels of education will be considered.

### Manager, Business Development

A unique and challenging position is available for an individual with training in marketing and finance. Responsibilities include financial organization and monitoring of product development expenditures along with a key role in market forecasting and strategic planning.

Difco Laboratories offers a competitive salary in a company poised for substantial growth. Please send your resume and salary requirements to:

**DIFCO**

Quality Products  
for Microbiology

D.J. Schafer  
**DIFCO LABORATORIES**  
Research and Development Center  
1180 Ellsworth Road  
Ann Arbor, MI 48104 USA  
EOE M/F

## POSITIONS OPEN

**GENETICIST:** Albert Holmes Rowe chair of human genetics, an endowed, full-time, faculty position in the School of Medicine and Department of Pediatrics at University of California (UC) Davis. The Rowe chair is being established to provide impetus and focus for the development of the fields of mammalian/human genetics. Applicants should have demonstrated ability in basic research, in the training of graduate and professional students, and interest in recruiting additional faculty in the development of the program. Submit curriculum vitae and names of five references to: **Michael E. Miller, M.D., Professor and Chair, Department of Pediatrics-3104PCC 4301 X Street, Sacramento, CA 95817.** The university is an Equal Opportunity/Affirmative Action Employer. Position remains open until filled—not later than 15 January 1987.

## ICHTHYOLOGIST

The Department of Biology, The University of Alabama, invites applications for a tenure-track position at the **ASSISTANT or ASSOCIATE PROFESSOR** level in systematic ichthyology to begin August 1987. The successful candidate will be expected to develop an active, externally funded research program; supervise graduate students; supervise management of the ichthyological collection; and teach a course in vertebrate zoology and one or more courses in area of specialty. Preference will be given to individuals with an experimental approach to fish systematics. A Ph.D. in biology or zoology with a specialty in ichthyology is required, and postdoctoral experience is preferred. Candidates for associate professor should have had a minimum of 4 years or equivalent experience at the level of assistant professor. Salary will be commensurate with experience. *The University is an Equal Opportunity Employer.* Applicants should send curriculum vitae, statement of research interests, reprints, and names, addresses, and telephone numbers of three referees by 22 December 1986.

**Dr. Robert R. Haynes, Chairman**  
Ichthyologist Search Committee  
Department of Biology  
P.O. Box 1927  
University of Alabama  
Tuscaloosa, AL 35487

**MAIZE GENETICIST—Ohio State University (OSU)** invites applications for an assistant professor, tenure-track position involving 80 percent research and 20 percent teaching in the Department of Agronomy. Individual will develop in genetics and germplasm improvement of maize. Excellent opportunity for collaboration with molecular geneticist and maize virus research team. For more information, contact: **Dr. A. L. BARTA, Search Committee Chair, Department of Agronomy, OARDC/OSU, Wooster, OH 44691.** *Equal Opportunity/Affirmative Action Employer.*

**MEDICAL TECHNOLOGY FACULTY:** Teach immunohematology and clinical microscopy, advise students, and other tenure-track activities. Must be certified in laboratory science and blood banking, master's degree, and 2 years of teaching experience required. Doctorate and research experience preferred. Position available spring 1987. Send curriculum vitae to: **Marie C. Vitte-toe, Professor/Department Chairman, Department of Medical Technology, 122 Medical Center Annex number 2, University of Kentucky, Lexington, KY 40536-0080.** *Equal Opportunity/Affirmative Action Employer.*

## PLANT EVOLUTION

The Department of Botany of the University of Texas at Austin invites applications for a tenure-track faculty position at the assistant professor level, available 1 September 1987. Individuals specializing in the areas of population genetics, evolutionary mechanisms, and evolutionary theory of angiosperms are encouraged to apply. The successful candidate will be expected to maintain a vigorous, independent research program, and contribute to the graduate and undergraduate teaching activities of the department. Send curriculum vitae, statements of research and teaching interests, reprints, and at least three letters of reference by 31 December 1986 to: **Dr. D. A. Levin, Chairman, Search Committee, Department of Botany, University of Texas, Austin, TX 78713.** *The University of Texas is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### MOLECULAR BIOLOGIST

**Instructor and/or associate research scientist** level to participate in ongoing research in the fundamental aspects of growth and differentiation of lymphocytes. Candidates must have demonstrable research experience. Send résumé, outline of research experience, and future plans to: **Dr. Nicole Suciu-Foca, Director of Immunogenetics, College of Physicians and Surgeons, Columbia University, 630 West 168 Street, New York, NY 10032.** *Columbia University is an Equal Opportunity Employer.*

### MOLECULAR BIOLOGIST

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

**NMR IMAGING AND SPECTROSCOPY—**Experienced NMR scientist to join the radiology faculty of the University of Texas in San Antonio. State funded, assistant or associate professor level, depending on qualifications. Contact: **G. D. Fullerton, Ph.D., Chief, Radiological Sciences Division, Radiology Department, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284.** *Equal Opportunity/Affirmative Action Employer.*

**PHYSICAL OCEANOGRAPHER FACULTY POSITION,** available immediately. The University of Southern Mississippi Center for Marine Science (USM/CMS) located at the NASA National Space Technology Laboratories (NSTL), home of 1500 marine scientists, is seeking a physical oceanographer to lead in developing a physical marine science program and curriculum. Duties include teaching one or two courses per year, directing graduate student research, and close cooperation with the National Data Buoy Center (NDBC) located at NSTL. The USM/CMS strongly endorses a global approach to studying the complex marine environment and wishes to develop these ideas with NDBC using their permanently moored buoy systems deployed in the coastal and shelf waters of the United States (including Alaska and Hawaii). Interaction with colleagues at Naval Oceanographic Research and Development Activity (NORDA), Naval Oceanographic Office (NAVOCEANO), National Oceanic and Atmospheric Administration (NOAA), and the Institute for Naval Oceanography is encouraged and will provide on-site technology not available on most university campuses. Applicants should submit résumés and the names and telephone numbers of three references to: **Dr. George A. Knauer, Director, University of Southern Mississippi, Center for Marine Science, NSTL, MS 39406,** by 15 January 1987, or interview **Dr. Knauer** at the December AGU meeting, to be assured of consideration. Rank and salary depend on qualifications. *Affirmative Action/Equal Opportunity Employer.*

### PHYSIOLOGIST

A tenure-track position at the assistant professor level for September 1987. Applicants should have a Ph.D. in physiology with a strong background in cardiovascular, respiratory, renal, or gastrointestinal physiology. Postdoctoral experience is required. Successful candidate will be expected to conduct an active research program involving undergraduate and master's students. The SYSTEMIC PHYSIOLOGIST is expected to teach introductory level courses (anatomy and physiology or general biology), as well as upper level physiology and pharmacology courses.

Please send letter of application, curriculum vitae, and letters from three references before 10 January 1987 to:

**Dr. Daniel D. Burke, Chairman**  
Department of Biology  
Seton Hall University  
South Orange, NJ 07079

*An Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

**PHYSICAL CHEMIST.** For its laboratory in Lyon (France) ELF France, a subsidiary of ELF AQUITAINE, the largest oil and gas French company, needs a physical chemist in the area of asphalts. Ph.D. required; 3 to 5 years of professional experience beneficial. Will work in a team of six people; rheology and adhesivity of asphalts; relations between chemical composition, chemical structure, and properties. Close contact with marketing people. Program duration: 2 to 3 years. Respond in confidence with résumé and salary history to: **ELF TECHNOLOGIES, Suite 300, Washington Square, 1050 Connecticut Avenue, Washington, DC 20036.**

### PLANT POPULATION GENETICIST

Plant population geneticists with emphasis in ecological or evolutionary mechanisms are urged to apply for a 10-month, tenure-track appointment starting 17 August 1987. Ph.D. required. Preference will be given to those using modern experimental/quantitative techniques. Applicants should submit a current résumé, graduate transcripts, a statement of research goals, reprints, and names and addresses of four references by 1 February 1987 to: **Dr. James L. Reveal, Department of Botany, University of Maryland, College Park, MD 20742.** *An Equal Opportunity/Affirmative Action Employer.*

### PLANT TISSUE CULTURE SPECIALIST

The Garst Seed Company, a member of the ICI International Seeds Business is recruiting for a B.S./M.S. level specialist in plant tissue culture. Experience with cereals and/or soybean will be an advantage. The research will be conducted at Slater (10 miles south of Ames), Iowa. Salary will be competitive. Please contact: **Dr. M. Wilson, Garst Seed Company, Research Department, P.O. Box 500, Slater, IA 50244.**

### POPULATION/COMMUNITY ECOLOGIST

Tenure-track assistant professor position for population/community ecologist with demonstrated excellence in experimental field (or field and laboratory) research. Candidates should be competent in mathematical aspects of ecology, teach a course in general ecology, and contribute to courses in one or more of the following: theoretical ecology, quantitative ecology, biological modeling, organismal biology, and participate in the graduate program in ecology and evolutionary biology. Candidates must have a Ph.D., potential for excellence in teaching, ability to develop an independently funded research program, and potential to interact productively with faculty and ecology and evolutionary biology. Applicants should submit a résumé including research and teaching experience, future research plans, and a list of publications; and have three letters of reference sent, to be received by 15 December 1986, to: **Dr. D. H. Morse, Division of Biology and Medicine, Brown University, Providence, RI 02912.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL ASSOCIATE—**A position beginning July 1987 is available to study activation and regulation of cellular genes by oncogenes in epithelial cells. Preference given to those with a strong background in molecular biology. Send curriculum vitae and bibliography to: **Michael W. Lieberman, Department of Pathology, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111.** *Equal Opportunity Employer.*

### HORMONE RECEPTORS

Position available immediately for a **POSTDOCTORAL FELLOW or RESEARCH ASSOCIATE** to use the molecular recognition hypothesis of complementary peptides [*Proc. Natl. Acad. Sci. U.S.A.* 82, 1372 (1985); *Biochem. Biophys. Res. Commun.* 139, 367-374 (1986)] for identification and characterization of hormone receptors. Experience in recombinant DNA or peptide chemistry helpful, but not essential. Salary up to \$25,000, depending on qualifications and training. Send curriculum vitae, reprints, statement of experience and goals, and list of three references to:

**Professor J. D. Neill**  
Department of Physiology and Biophysics  
University of Alabama at Birmingham  
Birmingham, AL 35294

*An Equal Opportunity/Affirmative Action Employer*

## Research Associate

Experienced in Physical Oceanography or numerical modelling of fluid dynamics required. Duties include programming, testing, and documentation of a numerical model of ocean circulation and associated diagnostics. MS in Physical Oceanography, applied math or related field desired. Apply to:

**Personnel Manager  
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## THEORETICAL CHEMISTS

The Pharmaceutical Discovery Division of Abbott Laboratories is committed to discovery of new pharmaceutical agents through the combination of rational drug development and outstanding science. Rational drug design using computerized graphics and energy calculations plays a major role in our research strategy.

To support our Discovery projects, the Computer Assisted Molecular Design group in Pharmaceutical Discovery is seeking both Ph.D. and MS candidates in the areas of:

- Energetics of proteins, peptide structure and function. Successful candidates should have knowledge and experience with molecular mechanics analysis of proteins and peptides, minimization, molecular dynamics and statistical mechanics.
- Small molecule computational chemistry with expertise in conformational analysis, quantum chemistry or receptor mapping. Experience with molecules the size of drugs is desirable.

Ph.D. candidates should be strong, self-motivated individuals who have demonstrated potential for conducting research independently and creatively. MS candidates should be highly motivated with significant experience in the above areas, and be able to conduct research with minimal supervision.

All scientists will be working closely with our project teams to apply theoretical methods to target proteins, peptides, and receptor-ligand systems. Therefore, good oral and written communication skills are essential.

Abbott is headquartered in an attractive suburban location on the Lake Michigan shoreline, just 30 miles north of Chicago. In addition to a superior scientific environment, we offer an excellent salary and benefits package including profit sharing and stock retirement plans. For confidential consideration, please send your resume with salary history to: **Pat Handy/Corporate Placement, Dept. 511-14**. Abbott is an Affirmative Action Employer.

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"HEALTH CARE WORLDWIDE"

## AUBURN UNIVERSITY

### DEAN, COLLEGE OF AGRICULTURE

In a reopening of the search, nominations and applications are invited for position of Dean of the College of Agriculture at Auburn University, the major land-grant university in Alabama. The College of Agriculture includes the departments of Agricultural Economics and Rural Sociology, Agricultural Engineering, Agronomy and Soils, Animal and Dairy Sciences, Entomology, Fisheries and Allied Aquaculture, Horticulture, Plant Pathology, and Poultry Science. There is a faculty of approximately 195, with over 500 undergraduate majors and 235 graduate students in 11 M.S. and 7 Ph.D. degree programs. The Dean has responsibility within the College for the instruction, research, and extension programs. The Dean will be expected to provide strong leadership in the development and strengthening of these programs and to be a spokesperson for agriculture in the state.

#### QUALIFICATIONS DESIRED:

- Successful administrative experience
- Commitment to the land-grant tradition and a distinguished, tenurable record in research, teaching, or extension
- Earned doctorate in one of the fields in the College
- Proven ability to communicate with many publics

The salary and starting date are negotiable. Applications or nominations should be submitted to:

**Dr. Warren W. Brandt**  
Chairman, Search Committee  
208 Samford Hall  
Auburn University, AL 36849-3501  
Telephone 205-826-5771

Applications should include a letter of interest addressing special qualifications and a résumé. The Committee will begin its review of applications on or about January 5, 1987.

AUBURN UNIVERSITY IS AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER

We are Alpha Therapeutic, a leader in the manufacture and worldwide distribution of quality pharmaceutical products. We are currently enjoying a dynamic period of growth and are looking forward to challenging and rewarding new product development programs. That, coupled with our sound financial base, makes Alpha an exciting place to work.

### CLINICAL PROJECT MANAGER

Minimum PhD in a biomedical science is required, as is 3-5 years R & D experience in clinical or laboratory environment. Strong interpersonal and verbal and written communication skills necessary; micro PC experience a plus.

### SCIENTISTS

MS or PhD in Biochemistry/Immunology or equivalent preferred. Protein separation/purification experience a plus and experience with monoclonal antibodies preferred. Will be involved with new product development/improvement, including planning and producing clinical lots.

### CLINICAL RESEARCH ASSOCIATES

BS in Physical or Biological Sciences required. Will assist in the development of clinical protocols and maintain effective communications with clinical investigators. Experience in academic or industrial research, laboratory or clinical, is preferred. Familiarity with computers is required.

### REGULATORY SPECIALIST

Requires BS in Chemistry/Biological Sciences with a minimum 2 years experience in health care Q.C., regulatory affairs or R & D.

For immediate consideration please send your resume to **Dave Calliham, Human Resources**, indicating for which position you are applying.

**Alpha**

THERAPEUTIC CORPORATION

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## POSITIONS OPEN

### POSTDOCTORAL ASSOCIATE

The Department of Applied Biological Sciences seeks a postdoctoral associate to study lipoprotein structure and metabolism, particularly in arterial wall, with an overall goal to develop new methods for diagnosis and treatment of heart disease. Ph.D. degree in life sciences required.

Interested candidates send two copies of both cover letter and résumé referencing Job Number C86-189 to: **Dr. Robert S. Lees, c/o MIT Department of Applied Biological Sciences, 77 Massachusetts Avenue (26-131), Cambridge, MA 02139. MIT is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITIONS (three)** available immediately to engage in projects on G-protein-mediated transmembrane signaling (**Dr. Ifeanyi J. Arinze**), roles of glycoconjugates in hormone-receptor and cell-substratum interactions (**Dr. Diane A. Blake**), and application of fluorescence spectroscopy and/or high pressure biochemistry to receptor-mediated signal transduction (**Dr. Parkson Chong**). Salary up to \$18,000. Our laboratories are contiguous and successful applicants will be expected to interact in related projects from these laboratories. Applicants should send curriculum vitae, statement of research experience, and names of three persons who may be contacted for reference to: **Dr. Ifeanyi J. Arinze, Chairman, Department of Biochemistry, Meharry Medical College, Nashville, TN 37208.**

**MOLECULAR BIOLOGY—MOLECULAR VIROLOGY.** One tenure-track equivalent assistant professorship level and several postdoctoral positions available immediately. Applicants must have extensive training and experience in molecular biology. A background in virology, especially herpes simplex, is a plus, but is not required. The Virology Research Laboratory at the Cedars-Sinai Medical Center (CSMC) is a University of California, Los Angeles (UCLA)-affiliated hospital. Send curriculum vitae and three letters of recommendation to:

**Anthony B. Nesburn, M.D.  
Steven L. Wechsler, Ph.D.  
Virology Research Labs, CSMC  
Halper Building, Room 116  
8700 Beverly Boulevard  
Los Angeles, CA 90048**

**POSTDOCTORAL POSITIONS.** Available (i) in the molecular biology and cloning of proteins which participate in human epidermal differentiation or (ii) in molecular genetics of staphylococcal exoproteins which cause skin injury. Experience in recombinant DNA technology, DNA sequencing, mutagenesis, and prokaryotic cell genetics will be favored. Please send curriculum vitae and three letters of reference to: **Kirk D. Wuepper, M.D., Department of Dermatology, The Oregon Health Sciences University, 3181 SW Sam Jackson Park Road, Portland, OR 97201.**

**POSTDOCTORAL POSITION** available immediately for the isolation, purification, and identification of the products of vitamin K metabolism in liver mitochondria. Further studies will include isolation and purification of the related proteins. Experience in protein purification preferred. Starting salary: \$22,000. Interested candidates should send curriculum vitae and names of three references to:

**Dr. Myrtle Thierry-Palmer  
Department of Biochemistry  
Morehouse School of Medicine  
Atlanta, GA 30310-1495**

**POSTDOCTORAL POSITION. MOLECULAR BIOLOGIST** to study structure/function relationships in blood coagulation proteins. Methods involve in vitro recombination with expression vectors, site-directed mutagenesis, DNA sequencing, and physicochemical and immunological probing of proteins. Position available immediately. Send curriculum vitae and three letters of reference to: **Dr. Bruce Kline, Department of Biochemistry and Molecular Biology, Mayo Graduate School of Medicine, Mayo Clinic, Rochester, MN 55905.**

*Mayo Clinic is an Equal Opportunity Employer.*

## POSITIONS OPEN

### UNIVERSITY OF LAVAL SCHOOL OF PHARMACY

Applications for **POSTDOCTORAL POSITIONS** in the Laboratory of Cancer Chemoprevention are invited from recent Ph.D.'s to participate in a multidisciplinary research program on the metabolism and gene toxicity of nicotine-derived N-nitrosamines and the modulating effects of chemopreventive agents. The candidates will compare DNA damages induced by tobacco carcinogens in animal and human fetal tissues. Experience or interest in one of the following areas is desired: tissue culture, carcinogen-DNA adducts, carcinogen metabolism, enzymology, and nutritional biochemistry. Send résumé with three references to: **Dr. Andre Castonguay, Laboratory of Cancer Chemoprevention, School of Pharmacy, University of Laval, Quebec, Canada G1K 7P4.**

**State University of New York (SUNY) at Stony Brook, postdoctoral position** is available immediately for biochemist, biophysicist, or molecular biologist to study the role of metal in the regulation and mechanism of gene expression in both prokaryotes and eukaryotes, particularly in RNA polymerases and metalloproteins. Experience in metalloproteins is helpful. Send curriculum vitae and three letters of recommendation to: **Professor Felicia Wu, Department of Pharmacological Sciences, H.S.C. SUNY-Stony Brook, Stony Brook, NY 11794-8651. SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK Number 263.**

**POSTDOCTORAL POSITION** is available for a biology-trained person at the Chemistry Department. A Ph.D. in biology, cell biology, or molecular biology is required, to work in the applications and development of a novel type of optical microscope. The person should have a good training in in vitro growth of mammalian cells, chromosome isolation techniques, experience with traditional optical microscopy including: expertise in staining and fixation procedures, immunofluorescence methods, in vitro hybridization and generation of monoclonal antibodies. A general knowledge of basic spectroscopy would be desirable, but not essential for the job. The position is available for a minimum period of 2 years and will involve collaborations with the University of New Mexico Medical School. Send curriculum vitae to: **Professor Carlos Bustamante, Chemistry Department, University of New Mexico, Albuquerque, NM 87131. Telephone: 505-277-3926.**

**POSTDOCTORAL POSITION:** Available immediately to study the effect of oxygen radicals on oncogene expression in cultured mammalian cells and radical-induced tumors. Effect of oxygen radicals on DNA repair mechanisms also will be studied. Experience in molecular biology preferred. Send curriculum vitae and names of three references to: **Alan B. Weitberg, M.D., Director, Division of Hematology/Oncology, Roger Williams General Hospital, Brown University, 825 Chalkstone Avenue, Providence, RI 02908. An Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL POSITION— IMMUNOLOGY

A postdoctoral position is available immediately for an individual with a Ph.D. and a strong background in immunology to study the functional and surface antigen phenotypes of bovine T-cell hybridomas. Expertise in immunochemistry of lymphocyte surface molecules and protein purification is preferred. Salary range is from \$22,000 to \$25,000 per year, depending upon the qualifications of the individual. Send curriculum vitae and the names and addresses of three references to: **Donald E. Burgess, Ph.D., Department of Veterinary Science, Montana State University, Bozeman, MT 59717, postmarked no later than 15 December 1986. MSU is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available to study resonance Raman spectroscopy of oligoribonucleotides of biological significance. Experience in Raman spectroscopy and/or strong background in physical biochemistry preferred. Send curriculum vitae and names of three references to: **Dr. Margaret I. Johnston, Department of Biochemistry, Uniformed Services University of the Health Sciences, Bethesda, MD 20814-4799.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION—Fungal molecular biology and root-microbial interactions.** Research on mycorrhizal associations of conifer roots, using DNA restriction analyses to characterize mycorrhizal fungi. Fungal or plant molecular biology experience is required. Position available January 1987. Send curriculum vitae to: **Dr. C. Bledsoe, Forestry AR-10, University of Washington, Seattle, WA 98195. Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** is available immediately to investigate the biochemical basis for muscle weakness at the Medical College of Wisconsin Center for Muscle Disorders. Candidates should have a Ph.D. or equivalent. Experience in the areas of purine catabolism, fatty acid metabolism, or glycolysis is preferred. Applicants should send curriculum vitae and names of three references to: **Robert L. Wortmann, M.D., Rheumatology Section, Medical College of Wisconsin, 8700 West Wisconsin Avenue, Milwaukee, WI 53226.**

**POSTDOCTORAL POSITION: ESTUARINE NITROGEN CYCLING.** Position available immediately for minimum of 2 years to participate in EPA-funded study of nitrogen impacts on productivity in the Neuse Estuary, NC. Ph.D. and experience in <sup>15</sup>N emission spectrometry required. Position dependent on non-state funds. Salary: \$20,000. Send résumé, official transcripts, and references to: **Dr. Donald W. Stanley, Institute for Coastal and Marine Resources, East Carolina University, Greenville, NC 27858. Screening of applications will begin 1 December 1986. East Carolina University is an Affirmative Action/Equal Opportunity Employer.**

### POSTDOCTORAL POSITION

Available immediately to study the regulation of rat HMG-CoA reductase gene expression. Candidates with Ph.D. in biological sciences and a background in recombinant DNA techniques are encouraged to apply. Send curriculum vitae and names of three references to: **Dr. Sohaib Khan, Department of Anatomy and Cell Biology, University of Cincinnati College of Medicine (ML 521), Cincinnati, OH 45267.**

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**POSTDOCTORAL POSITION:** Immediate openings to investigate protein functional domains in bacterial and eukaryotic ribosomes using chemical modification of proteins, phosphorylation by protein kinases, protein-protein cross-linking, monoclonal antibodies, and in vitro mutagenesis. Experience in one or more of these methodologies desired. Send curriculum vitae and names of three references to: **Dr. Robert R. Traut, Department of Biological Chemistry, School of Medicine, University of California, Davis, CA 95616. Telephone: 916-752-3354.**

**POSTDOCTORAL POSITIONS** in protein chemistry and macromolecular crystallography are available for (i) studies of the molecular basis of protein-protein interactions using chemical approaches and site-directed mutagenesis (**Dr. K. Brew**), (ii) structural investigations of myeloperoxidase and chlorophyll-protein complexes by x-ray crystallography (**Dr. R. Fenna**).

Send curriculum vitae and three letters of reference to: **Dr. Keith Brew or Dr. Roger Fenna, Department of Biochemistry (R629), University of Miami School of Medicine, P.O. Box 016129, Miami, FL 33101.**

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

**POSTDOCTORAL POSITION IN PLANT DEVELOPMENT/MOLECULAR BIOLOGY** for studies of light-regulated development in roots. Applicants should be experienced with molecular techniques. Available January 1987. Send curriculum vitae and names/telephone numbers of three references to: **Dr. Lewis Feldman, Department of Botany, University of California, Berkeley, CA 94720.**

**POSTDOCTORAL POSITION:** available immediately to study biochemistry/molecular biology of calmodulin in regulation of proteolysis in *Bacillus subtilis*. Send curriculum vitae and names of three references to: **Dr. James H. Hageman, Department of Chemistry, New Mexico State University, Las Cruces, NM 88003.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately to study the relationship between synaptic structure, function, and growth in the amphibian cardiac ganglion. Candidates should have experience with intracellular recording and voltage clamp techniques. Experience with computers and data acquisition systems desirable. Send curriculum vitae and names of three references to: **Dr. Peter B. Sargent, Division of Biomedical Sciences, University of California, Riverside, CA 92521.**

**POSTDOCTORAL RESEARCH** at The National Center For Toxicological Research. NCTR's research mission is to study the biological effects of potentially toxic chemicals. Doctoral degree within last 3 years preferred. Stipend is \$23,000 to \$30,000, depending on research area and experience. Contact: **ORAU Postgraduate Program at NCTR, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831; telephone: 615-576-3190. Equal Opportunity Program open to U.S. citizens or PRA.**

**POSTDOCTORAL RESEARCH ASSOCIATE** position available beginning September 1986 to conduct research on the molecular mechanisms/interactions involved in tumor cell-platelet-endothelial cell interactions using both in vitro and in vivo model systems. The investigative approach can be any combination of EM, immunohistochemistry, and arachidonate metabolism. Individual would join an interdisciplinary cancer research group with basic research focused on the mechanisms by which tumor cells metastasize and applied research focused on possible therapeutic intervention of metastasis and directed cytotoxic therapy against primary and recurrent tumors. The position may be developed into a faculty position. The Cancer Biology Division, Department of Radiation Oncology, is a research group of the Comprehensive Cancer Center of Metropolitan Detroit. Send curriculum vitae plus three references to: **Dr. Kenneth V. Honn, Department of Radiation Oncology, 210 Science Hall, Wayne State University, Detroit, MI 48202.**

## Diabetes Research

### Senior Scientist

Sandoz Pharmaceuticals Corporation is responsible for products that improve the quality of life. Our developments are the result of research conducted by professionals who specialize in many different fields.

The Sandoz Research Institute is currently seeking an experienced investigator to play a vital role in diabetes research. Our position offers a unique opportunity for an innovative, self-motivated, independent scientist to develop a research program in hormonal signal transduction with the emphasis on identification of novel therapeutic approaches to NIDDM. The successful candidate will work closely with interdisciplinary research teams. Responsibilities will initially include supervision of at least one research scientist.

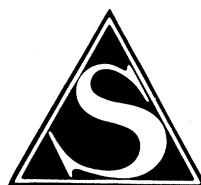
The requirements of the position include:

- Ph.D. or equivalent in biochemistry or related discipline with an emphasis on metabolic regulation.
- Experience with membrane receptors. GTP binding proteins and enzyme kinetics.
- Knowledge of insulin action and the pathophysiology of diabetes.
- Record of significant publications in major scientific journals.
- Excellent written and oral communication skills.

Positions at Sandoz offer personal satisfaction, professional opportunity/challenge, competitive salaries and an excellent benefits package. Our campus-like facilities are conveniently located in northern New Jersey.

For prompt consideration, please forward your resume and salary requirements in confidence to:

Joseph P. Castellano  
Director of Human Resources  
Sandoz Research Institute



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## POST-DOCTORAL FELLOWSHIPS LOW GRAVITY BIOTECHNOLOGY

The Bioprocessing and Pharmaceutical Research Center is seeking a post-doctoral fellow for each of the following research areas:

### Free Fluid Separations in Low Gravity

Under the supervision of a senior scientist, research will focus on current problems in low gravity separations. Free fluid electrophoresis, analytical electrophoresis, and ground and space based electrophoretic phenomena are current research areas. A new program in low gravity magnetic flotation separation is under consideration. Innovative low gravity separations research will be encouraged.

### Low Gravity Cell Science

Research on the mechanics of cell growth in the absence of gravity will be supervised by a senior staff scientist. Current interest centers on the development of a low gravity cell growth reactor. This research program includes basic research on cell behavior in low gravity with particular emphasis on intracellular processes in bulk cell masses. Innovative thinking leading to new research opportunities is encouraged.

The Bioprocessing and Pharmaceutical Research Center is a NASA funded Center of Excellence located at the University City Science Center in West Philadelphia, next to the campus of the University of Pennsylvania and Drexel University. Scientists have full access to researchers at the Science Center's five biotechnology Research Institutes, as well as the faculty and scientists of the surrounding universities. Extensive interaction with researchers from local biotechnology and pharmaceutical companies is encouraged. The Center will relocate to a new 8000 square foot facility in late 1986.

Fellowships commence January 1, 1987 and are for twelve months. Salary commensurate with experience. Excellent employee program. Equal opportunity/affirmative action employer. Letter and Curriculum Vitae to:

**The Bioprocessing and Pharmaceutical Research Center**  
3401 Market Street – Suite 220  
Philadelphia, PA 19104



# DIRECTOR HIGH ALTITUDE OBSERVATORY NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

The National Center for Atmospheric Research (NCAR) invites nominations and applications for the position of Director of the High Altitude Observatory (HAO), a division of NCAR. Research in HAO covers a broad program of solar-astrophysical and solar-terrestrial research. The observatory has four sections, Solar Activity and Magnetic Fields, Solar Interior Processes, Coronal Interplanetary Physics, and Solar Terrestrial Interactions. The division has a staff of approximately 70, and an annual operating budget of about \$3.5 million.

The Director of HAO ensures the scientific productivity, creativity, and excellence of the division; formulates and executes long and short-range plans; oversees the operation and development of the division; and ensures that the HAO actively contributes to interinstitutional, national and international programs on the fundamental questions of solar-astrophysical and solar-terrestrial research. The Director actively participates in HAO research efforts. As a member of the NCAR management team, he/she participates in NCAR strategy, policy and administrative matters.

**REQUIRES:** Ph.D. in an area related to HAO research OR the equivalent combination of education and experience; international recognition as a scientific leader in areas of HAO interest, as demonstrated by a research record of depth and breadth sufficient to qualify as an NCAR senior scientist and to provide long-term scientific leadership for the division; demonstrated understanding of effective direction of a complex research organization; ability to plan and utilize resources; skill in interacting with peers, both internal and external; and skill in directing, developing and evaluating staff.

We request that letters of application or nomination be sent as soon as possible, and no later than December 5, 1986. Applications or equivalent expressions of interest should be accompanied by a resume and publications list. Please send letters to: **Richard A. Anthes, Director, National Center for Atmospheric Research, P.O. Box 3000, Boulder, CO 80307.**

NCAR is operated by the 55-institution University Corporation for Atmospheric Research, an equal opportunity, affirmative action employer, under the sponsorship of the National Science Foundation.

**NCAR**  
National Center  
for Atmospheric Research

## 1987 NATIONAL RESEARCH COUNCIL DEPARTMENT OF THE NAVY RESIDENT RESEARCH ASSOCIATESHIPS tenable at Naval Medical Research and Development Command Laboratories

Resident Research Associateship Awards are offered on a competitive basis to postdoctoral and senior scientists of unusual ability in such fields as

- Environmental Physiology • Medical Sciences
- Cellular & Molecular Biology • Biochemistry
- Parasitology • Auditory & Communication Sciences
- Behavioral Sciences • Microbiology
- Vision & Visual Perception • Immunology
- Hyperbaric Physiology, Medicine & Engineering

Programs are open to U.S. citizens and to citizens of other countries who have good command of English. Initial awards are for one year with the possibility of renewal. Stipend begins at \$26,350 for recent graduates and is appropriately higher for seniors. Relocation reimbursement and funds for professional travel are available, and a health insurance program is offered.

Specific laboratory locations are:

- Naval Aerospace Medical Research Laboratory (Pensacola, FL)
- Naval Health Research Center (San Diego, CA)
- Naval Medical Research Institute (Bethesda, MD)
- Naval Dental Research Institute (Great Lakes, IL)
- Naval Submarine Medical Research Laboratory\* (Groton, CT)

\*U.S. citizenship is required.

The National Research Council will accept applications postmarked on or before January 15, 1987. For complete program description and application forms, write to:

Associateship Programs JH608-NM1  
**NATIONAL RESEARCH COUNCIL**  
2101 Constitution Avenue N.W.  
Washington, D.C. 20418

## SENIOR SCIENTISTS

The newly established Acquired Immunodeficiency Syndrome (AIDS) Program, National Institute of Allergy and Infectious Diseases, National Institutes of Health, U.S. Public Health Service, in Bethesda, Maryland, is recruiting for several senior level positions at a salary range of \$31,616 to \$68,700 per annum depending on qualifications. Candidates may also be eligible for appointment in the Commissioned Corps of the U.S. Public Health service. Applicants are sought with broad backgrounds in pharmacology, toxicology, drug formulation, biochemistry, chemistry and biology. The individuals selected will be responsible for the management of an extramural program (grants, contracts and cooperative agreements) to support research in various aspects of HIV infection. Numerous positions are available including Chief, Pathogenesis Branch and Chief, Research Support Branch. Applications will be considered, and are encouraged, for temporary as well as permanent civil service positions. Applicants must be U.S. citizens. For additional information and application procedures please contact **Mr. Richard Southers, Personnel Management Branch, National Institute of Allergy and Infectious Diseases, NIH, Building 31, Room 7A33, 9000 Rockville Pike, Bethesda, MD 20892, or call (301) 496-4634.**

*An Equal Opportunity Employer*

# THE AUSTRALIAN NATIONAL UNIVERSITY

*Applications are invited from suitably qualified women and men for a number of POSTDOCTORAL FELLOW/RESEARCH FELLOW positions in the JOHN CURTIN SCHOOL OF MEDICAL RESEARCH.*

## DEPARTMENT OF BIOCHEMISTRY

- (a) One or two positions will be available to work with Dr Cox and Professor Gibson on the assembly and molecular mechanism of a number of membrane associated complexes. The experimental approaches used include gene cloning, DNA sequencing, random and site-directed mutagenesis, protein purification and characterisation, and molecular model building. The membrane complexes currently being investigated in *Escherichia coli* include the energy-transducing ATPase, the electron transport chain and the inorganic phosphate transporter. A study of the assembly of mammalian membrane complexes, derived from cDNA clones, into *Escherichia coli* membranes is to be initiated. Enquiries to **Professor F. Gibson or Dr Cox (062) 49 2499**.
- (b) One position will be available for a biochemist, bio-organic chemist or organic chemist with interests and/or experience in the reactions and synthesis of heterocyclic substrates, irreversible enzyme inhibitors and activators of pteridine-requiring enzymes. Experience in enzymology would be an advantage but is not essential. Enquiries to **Dr Armarego (062) 49 2598/49 2499**. Closing Date: 1 December 1986. Ref: JC.25.9.1.

## EXPERIMENTAL NEUROLOGY UNIT

A position of postdoctoral fellow/research fellow is available for a suitably qualified applicant to work with Dr S. Redman on synaptic transmission in the mammalian central nervous system. The Experimental Neurology Unit is well equipped for modern microelectrode techniques, in vivo and in vitro preparations, computing and morphological analysis. Collaboration with other groups within the John Curtin School working on control of movement, identification of neurotransmitters and on properties of ionic channels will be encouraged. For further information contact **Dr Redman (062) 49 2602**. Closing Date: 1 December 1986. Ref: JC.25.9.2.

## DEPARTMENT OF HUMAN GENETICS

Two postdoctoral or research fellowship positions are available in the Department of Human Genetics. Groups in the Department study molecular genetic aspects of inherited enzyme abnormalities and immune response in the pathogenesis of disease. Applications are particularly sought from people with experience in molecular biology. The positions are available in two research programs led by: (a) Dr P.G. Board: Molecular genetic studies of the human glutathione S-transferase family and mechanisms of coagulation factor XIII deficiencies. (b) Dr S.W. Serjeantson: Molecular genetic studies in cellular immunology, including the roles of MHC, Ig and T cell receptor genes in human autoimmune disorders. The Department's laboratories are well-equipped with recombinant DNA research, as well as for HLA serology, other blood genetic marker analyses and for computer analysis for genetic data. Enquiries to **Dr Board (062) 49 4714, Dr Serjeantson 49 4706**. Closing Date: 1 December 1986. Ref: JC.25.9.3.

## DEPARTMENT OF IMMUNOLOGY

The Department of Immunology has two positions available to be filled at the level of Postdoctoral Fellow/Research Fellow. The Department seeks applications from scientists with experience in one or other of the general areas of immunochemistry, reproductive biology and endocrinology. The Department's work is in developmental immunology, foetal maternal interactions, embryonic cell differentiation or the specific responsiveness of foetal animals to antigenic challenge and the appointees will be given support and encouragement to develop

their interests in these areas. The Department has research facilities for large animal experimentation, an experimental farm with facilities for working with sheep and cattle as well as facilities for conventional laboratory species. Work is presently being done in embryo preservation, embryo splitting and the creating of synthetic animals by surgical procedures on embryos. The Department is well equipped for biochemical, immunochemical and endocrinological studies and has FPLC and HPLC instrumentation, facilities for tissue culture, gel electrophoresis, chromatography and ultracentrifugation, micromanipulation, electronmicroscopy etc and well-equipped experimental surgeries and microsurgical facilities. Enquiries and further particulars can be obtained from **Professor Bede Morris (062) 49 2392**. Closing Date: 1 December 1986. Ref: JC.25.9.4.

## DEPARTMENT OF MEDICINE AND CLINICAL SCIENCE AND DEPARTMENT OF EXPERIMENTAL PATHOLOGY

A position is available to work in the research program in developmental haematology/immunology within the Departments of Medicine and Clinical Science and Experimental Pathology. The appointee will collaborate with Dr R. Ceredig and Dr A.J. Hapel in an investigation of early lymphocyte differentiation; cytokine production; and the interaction of various cytokines in leukocyte differentiation. An interest in cell surface molecules, or gene regulation and expression, would be advantageous but not essential. Enquiries to **Dr Ceredig (062) 49 4250 or Dr Hapel (062) 84 2921**. Closing Date: 1 December 1986. Ref: JC.25.9.5.

## DEPARTMENT OF MICROBIOLOGY

An interdisciplinary team is being set up to construct recombinant vaccinia and adenoviruses containing other viral or mammalian genes and to study various aspects of immune responses using these viruses. One or two positions will be available and preference may be given to molecular virologists with previous experience working with vaccinia and/or adenoviruses. Enquiries to the Head of the Department, **Dr R.V. Blanden on (062) 49 2596 or (062) 49 2558**. Closing Date: 1 December 1986. Ref: JC.25.9.6.

## DEPARTMENT OF PHYSIOLOGY

A position is available for a Postdoctoral Fellow or Research Fellow in visual neuroscience. The appointee will be required to advance studies of neural pathways in the striate cortex and extrastriate cortex of cat and monkey. It will be an advantage to have had experience in single cell recording and in the application of axonal tracers for the histological study of neural pathways. Preference will be given to applicants with experience in intracellular recording and the use of ionophoretic techniques for the staining of cells or the study of neural transmission in the cortex. Enquiries to **Dr G.H. Henry (062) 49 2038 or Professor W.R. Levick (062) 49 2525**. Closing Date: 1 December 1986. Ref: JC.25.9.7.

## PROTEIN CHEMISTRY GROUP

A position is available in the Protein Chemistry Group to collaborate with Dr P.D. Jeffrey in experimental and/or theoretical studies of structural or thermodynamic aspects of protein-protein interactions. The research work will concern self-interactions in protein hormones, the binding of protein hormones to their receptors, and the correlation of these properties with the mechanism of action of protein hormones at the molecular level. Enquiries to **Dr Jeffrey (062) 49 3652**. Closing Date: 1 December 1986. Ref: JC.25.9.8.

Salary will be in accordance with qualifications and experience within the range: Postdoctoral Fellow Grade 1 (at a fixed point) \$24,013–\$27,507 p.a.; Research Fellow \$27,859–\$36,600 p.a.; Appointment, unless otherwise stated, will be: Research Fellow normally up to three years with the possibility of extension to maximum of five years; Postdoctoral Fellow normally two years, with the possibility of extension to maximum of three years. Superannuation, maternity leave and assistance with travel and housing, available. The University reserves the right not to make an appointment or to make an appointment by invitation at any time. Applicants should quote the reference number when submitting applications to **R.V. Dubs, Registrar, GPO Box 4, Canberra, ACT, 2601 Australia**.

THE UNIVERSITY IS AN EQUAL OPPORTUNITY EMPLOYER

## POSITIONS OPEN

**POSTDOCTORAL POSITION AVAILABLE IMMEDIATELY FOR MICROBIOLOGIST/BIO-CHEMIST** to study bacterial degradation of organic pollutants in ground water and hazardous wastes. Current emphasis is on development of strains to degrade substituted aromatic compounds. Background in microbial physiology, strain construction, or molecular biology helpful. Position is at Air Force Engineering and Services Center, Tyndall AFB, Panama City, FL. Annual stipend range is up to \$30,000. Ph.D. within last 3 years required, as is U.S. citizenship or PRA status. Contact: **Postgraduate Research Program/Tyndall, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831; telephone: 615-576-1089.**

**POSTDOCTORAL RESEARCH ASSOCIATE** position available immediately in the Section of Allergy-Immunology to study late phase allergic airway responses and airway hyperreactivity. Background in immediate hyperreactivity, pharmacology, mediators of inflammation, or physiology preferred. Salary commensurate with level and experience. Please send curriculum vitae and the names of three references by 10 December 1986 to: **Dr. W. James Metzger, Department of Medicine, East Carolina University School of Medicine, Greenville, NC 27858-4354. Affirmative Action/Equal Opportunity Employer.**

**Agricultural Research Service (ARS), U.S. Department of Agriculture (USDA)** announces **TWO POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS** in molecular biology at the **Regional Poultry Research Laboratory in East Lansing, MI**. Temporary appointments for up to 4 years. Salary is commensurate with experience (\$26,381 to \$31,619). Ph.D., previous experience in molecular biology, and U.S. citizenship required. Positions are: (i) molecular biologist to map the genome of avian infectious bursal disease virus, clone the genomic segments that code for protective epitopes and insert these segments into appropriate vectors to produce recombinant vaccines. (ii) Molecular biologist to identify promoter sequences of fowl pox virus and utilize these promoters for expression of viral genes in genetically engineered recombinant DNA vaccines. Laboratory well-established in areas of molecular biology, virology, immunology, and genetics. Team approach emphasized. For information on research program and/or position(s), contact: **Dr. J. M. Sharma (i), or Dr. K. Nazerian (ii) at 517-337-6828**. For information on application procedures/forms contact: **Janie Carr at 301-344-4569**. Applications in response to this advertisement should be marked GN018.

Applicants are urged to apply as soon as possible. Selections must be made by 31 January 1987.

Mailing address:

**USDA, AGRICULTURAL RESEARCH SERVICE  
Personnel Operations Branch  
North Central Section  
Room 123, Building 003, BARC-West  
Beltsville, MD 20705**

*An Equal Opportunity Employer*

**POSTDOCTORAL RESEARCH ASSOCIATE.** Biophysical chemistry. Structure and conformation of blood group glycoproteins and related oligosaccharides. Experimental techniques include high field two-dimensional NMR spectroscopy, conformational energy calculations, computer graphics, and vacuum ultraviolet circular dichroism. **C. Allen Bush, Department of Chemistry, Illinois Institute of Technology, Chicago, IL 60616. An Equal Opportunity Employer.**

**POSTDOCTORAL TRAINING IN CLINICAL CHEMISTRY.** Position available 1 July 1987, for basic scientist or physician interested in career as laboratory director in academic laboratory medicine. Our 2-year program provides practical experience in clinical chemistry laboratories and extends relevant basic scientific knowledge.

Deadline: 1 December 1986.

WRITE TO: **Margaret Kenney, Ph.D., Program Director, Department of Laboratory Medicine, SB-10, University of Washington, Seattle, WA 98195.**

*An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH POSITION** in developmental neurobiology available immediately. Experience in neuroanatomical and behavioral techniques applied to rodent development. Send curriculum vitae and three references to: **Dr. Saul M. Schanberg, Department of Pharmacology, Box 3813, Duke University Medical Center, Durham, NC 27710. Duke University is an Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH POSITION** to investigate the transport of vitamin E in lipoproteins of patients with vitamin E deficiency and abnormalities of lipoprotein metabolism. Applicant should be a recent graduate and be familiar with lipoprotein isolation, HPLC, GC, and tissue culture. Send résumé and names of three references to: **Joan Harmon, Personnel Department, New York University Medical Center, 317 East 34 Street, 7th Floor, New York, NY 10016. An Affirmative Action/Equal Opportunity Employer, M/F.**

### **HAROLD H. BAILEY PROFESSOR OF BIOLOGY VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY**

The Department of Biology invites applications and nominations for the **Harold H. Bailey professorship of biology**. This professorship was endowed by the Bailey Research Trust in honor of the late Harold H. Bailey, a noted amateur biologist and natural historian. We are seeking a senior-level, internationally recognized scholar from the field of vertebrate biology, broadly defined. We seek applicants who are addressing fundamental biological questions using modern research approaches. It is expected that the Bailey professor will contribute to the instructional mission of the university and conduct original research of the highest caliber.

Application materials should include curriculum vitae, a statement of anticipated future research directions, and names of three potential references. Applicant evaluation will begin 1 November 1986 and will continue until the position is filled. Applications and nominations should be sent to:

**E. R. Stout, Head  
Department of Biology  
Virginia Polytechnic Institute and State University  
Blacksburg, VA 24061**

*Virginia Tech is an Equal Opportunity/Affirmative Action Employer.*

## **HARVARD MEDICAL SCHOOL**

The Department of Genetics at **Harvard Medical School** is searching for a **PROFESSOR OF GENETICS** whose primary interest is in molecular genetics of the immune system. This person would be expected to lead a large research unit, participate in the teaching of medical and graduate students, and serve as one of the senior members in the Department of Genetics. Applicants should submit by 1 December 1986 curriculum vitae, bibliography, and brief description of research in progress to: **Dr. Bernard N. Fields, Chairman, Search Committee, Department of Microbiology and Molecular Genetics, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115. Harvard Medical School is an Equal Opportunity/Affirmative Action Employer. Qualified female and minority applicants are encouraged to apply.**

## **HARVARD MEDICAL SCHOOL**

The Harvard Medical School and Children's Hospital of Boston invite applications for the position of **Professor of Biochemistry** with tenure. The laboratory is to be located in the Department of Surgery of the Children's Hospital. The applicant should be an outstanding scientist with an international reputation in the biology, biochemistry, and molecular biology of growth factors. The candidate's work should deal with the structure and mechanism of the action of growth factors, preferably research on the growth of vascular endothelial cells which stimulate angiogenesis. The candidate will be expected to supervise junior faculty, graduate students, and medical students. Applicants should submit curriculum vitae and bibliography to: **Dr. Kurt J. Isselbacher, Chairman, Search Committee, Massachusetts General Hospital, Boston, MA 02114. Harvard Medical School is an Equal Opportunity/Affirmative Action Employer. Qualified female and minority applicants are encouraged to apply.**

## POSITIONS OPEN

**PRODUCT DIRECTOR** to direct and coordinate activities concerned with development and launching of new products for firm's pharmaceutical division; coordinate multifunctional activities as project reviews with preclinical, clinical regulatory, sourcing/manufacturing, finance and market research information; review and analyze proposals submitted to determine if benefits derived and possible applications justify expenditures; prepare and implement worldwide marketing plan and product core marketing and promotional activities; identify clinical study needs or other R&D support for the products against competitors; monitor product results and provide ongoing qualitative evaluation; develop international sales force training programs. Master's in pharmacy required and 2 years of experience in job offered or 2 years of experience as product manager or business marketing manager in pharmaceutical industry. Experience as product manager or business marketing manager in pharmaceutical industry must include directing the development and launch of cardiovascular drugs. Forty hours; Monday thru Friday; 8:00 a.m. to 4:30 p.m.; \$55,000 per year. Direct résumés and social security number to: **Illinois Job Service, 910 South Michigan Avenue, Room 333, Chicago, IL 60605, Attention: Mrs. S. Chalem, Reference number 5786S. An Employer Paid Ad.**

### **SEARCH RE-OPENED FOR GREEMAN-PETTY PROFESSOR OF VISION DEVELOPMENT**

The College of Optometry at the University of Houston is seeking candidates for an **ENDOWED PROFESSORSHIP** in vision development with a special emphasis on research, development and teaching optometric treatment of vision processing disorders related to learning problems. The vision scientist selected is expected to provide scholarly leadership in the area of vision development and collaborate with practitioners and other vision scientists at the college.

The application deadline is 1 May 1987 and the position will be filled on or about 1 September 1987. Send nominations and/or curriculum vitae to: **Search Committee, Greeman-Petty Professorship, University of Houston, College of Optometry, 4901 Calhoun Street, Houston, TX 77004. Equal Opportunity Employer.**

The University of Rochester invites nominations and applications for the **Luce PROFESSORSHIP of Cognitive Science**. The Cognitive Science Program at Rochester was among the first in the country and features a vibrant undergraduate major, excellent graduate students, and considerable foundation and federal funding. The appointee will hold professorships in two or more of the core disciplines of the program: computer science, linguistics, neuroscience, philosophy, physiology, and psychology.

Nominations and applications should be sent to: **Jerome A. Feldman, Luce Professorship Search Committee, Department of Computer Science, University of Rochester, Rochester, NY 14627. The University of Rochester is committed to increasing representation of women and members of minority groups on its faculty and encourages nominations of such candidates.**

### **DISTINGUISHED PROFESSORSHIP IN BIOLOGY UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL**

The Department of Biology, University of North Carolina at Chapel Hill is pleased to announce the availability of a distinguished professorship to begin July 1988, or possibly sooner. We welcome inquiries from individuals in the fields of cell biology, developmental biology, and neurobiology. The salary is highly competitive and the position includes a permanent half-time secretary, substantial set-up funds, and a custom renovated laboratory. We would appreciate letters of inquiry from potential candidates, as well as nominations. All communications will be held in the strictest possible confidence.

For further information, write to: **L. I. Gilbert, Chairman, Department of Biology, Wilson Hall 046A, University of North Carolina, Chapel Hill, NC 27514, or telephone: 919-966-2055. The University of North Carolina at Chapel Hill is an Equal Opportunity/Affirmative Action Employer.**



## VICE PRESIDENT FOR SCIENCE AMERICAN HEALTH FOUNDATION

The AMERICAN HEALTH FOUNDATION is seeking a scientist of internationally recognized excellence to direct its applied and basic research programs on the prevention of cancer and coronary artery disease at its modern research facility north of New York City.

The successful candidate should be an established scientist who has made significant contributions based on research and publications, as well as program funding, in the area of chronic disease prevention. Experience in directing research programs is essential. The Vice President for Science reports to the President and serves as an *ad hoc* member of the Board of Trustees and Scientific Advisory Board.

Inquiries in writing together with curriculum vitae and bibliography should be sent not later than December 1, 1986 to:

**Dr. J.J. DeCosse**  
**Chairman, Scientific Advisory Board**  
**American Health Foundation**  
**320 East 43 Street**  
**New York, NY 10017**

*THE AMERICAN HEALTH FOUNDATION IS AN EQUAL  
OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER*

## STATISTICIAN/ EPIDEMIOLOGY

The Division of Biological and Medical Research at Argonne National Laboratory has a staff position available in the Environmental Health Section for an individual to conduct applied biostatistical research on the health effects of radiation and radioisotopes, as well as other environmental/occupational pollutants and the distribution of those pollutants.

Qualified applicants should have a Ph.D. in statistics and five or more years of experience in biostatistical analysis of experimental and non-experimental data, preferably relating to effects of environmentally significant agents. Knowledge and experience in statistical methods now used in epidemiology, e.g. logistic and Poisson regression, proportional hazard modeling and logistic analysis of case-control studies, and related computer programming is required. Competitive salary commensurate with training and experience. Send resume in confidence to:



**Rosalie L. Bottino**  
**Box J-BIM-26472-55**  
**ARGONNE NATIONAL**  
**LABORATORY**  
**9700 South Cass Ave.**  
**Argonne, IL 60439**

*Argonne Is An Equal Opportunity/  
Affirmative Action Employer.*

## Senior Research Scientists San Francisco Bay Area

BIO-RAD LABORATORIES' Clinical Diagnostics Division is expanding its Research Group to undertake the development of new immunoassay systems for the 1990s. We are looking for highly motivated professionals with expertise in the following fields:

- **Immunoassay Development** — Experience in the successful development of commercial immunoassays, with particular emphasis on non-isotopic labels.
- **Immunoassay Product Support** — Problem solving skills and experience in the technical support of immunoassays.
- **Cancer Immunology** — A background in immunology or biochemistry, and postdoctoral experience with emphasis in tumor immunology and clinical immunology.
- **Protein/Peptide Chemistry** — Experience in protein purification, modification, and characterization by peptide mapping and gas-phase sequencing. Further experience in peptide synthesis, purification, and analysis is an asset.
- **Infectious Disease Diagnostics** — A working knowledge of immunology and immunochemistry, with at least two years' industry experience in immunoassay development. Training in clinical microbiology preferred.
- **Hybridoma Development** — At least three years' hybridoma experience is required. Strong communication and leadership skills are essential.

Working in a multi-disciplinary environment, you will enjoy the freedom to explore new technologies. These positions offer the opportunity for career growth and the recognition of accomplishment. Interaction with the scientific community through publication and meeting attendance is encouraged.

Requirements include an advanced degree or equivalent experience, a proven record of accomplishments and a commitment to excellence.

**Be part of the team in our new facilities overlooking San Francisco Bay.**

We offer a competitive salary and benefits package. To learn more about the intrapreneurial spirit at Bio-Rad, please send your resume and salary history to: Corporate Employment Manager, Bio-Rad Laboratories, Human Resources, Dept. #293-S, 1414 Harbour Way, Richmond, CA 94804. An equal opportunity employer.

**BIO-RAD**

**Bio-Rad Laboratories**

## POSITIONS OPEN

### SHAW VISITING PROFESSORSHIP IN AQUATIC SCIENCE 1987 to 1989

The Center for Great Lakes Studies (CGLS) at the University of Wisconsin-Milwaukee invites applications for sabbatical support for up to 1 year at CGLS. Visitors will present a series of lectures and participate in interdisciplinary research on some aspect of biogeochemistry. Some areas of interest are: metal biogeochemistry, phytoplankton ecology, remote sensing, and the application of molecular genetic approaches to aquatic research. For applications and information: **Dr. D. N. Edgington, Director, CGLS, 600 East Greenfield Avenue, Milwaukee, WI 53204. An Affirmative Action/Equal Opportunity Employer.**

### PROTEIN CHEMIST

An opportunity is available for a biochemist with experience in protein structure studies. Candidate must have a doctoral degree in biochemistry and a minimum of 5 years of experience in the field of protein chemistry. Must be accomplished in the preparation of proteins and peptides by modern HPLC methods and the analysis of their composition and primary sequence. Must be experienced in the use of gas phase sequencer. Must be experienced in the use of computers to predict structure. Position is located in the Division of Medical Genetics, Department of Pediatrics, University of Southern California at Childrens Hospital of Los Angeles. Joint appointment in biochemistry is available. Excellent opportunities are available for collaboration and extension of interests to challenging cell biologic questions of protein translocation and membrane integration. Salary, academic rank, and tenure status are determined by experience and record of productivity. Send curriculum vitae, representative publications, statement of research interests, and names of three references to: **John A. Barranger, M.D., Ph.D., Head, Division of Human Genetics, Childrens Hospital of Los Angeles, 4650 Sunset Boulevard, Los Angeles, CA 90027.**

*Childrens Hospital of Los Angeles and the University of Southern California are Affirmative Action Employers.*

### RESEARCH ASSISTANT PROFESSOR

The Mary Babb Randolph Cancer Center of West Virginia University School of Medicine invites applications for a research assistant professor with responsibility for daily operation of a new Protein Analysis and Monoclonal Antibody Core Facility. A strong background in protein analysis is essential. The successful applicant will be expected to initiate and carry out projects involving protein purification, protein sequencing and peptide synthesis, and will oversee the production and characterization of monoclonal antibodies. A joint appointment in biochemistry is available to qualified candidates. Competitive salary commensurate with qualifications will be offered. Send curriculum vitae and arrange for three letters of reference to be forwarded to: **Dr. Bruce Caterson, Department of Biochemistry, West Virginia University School of Medicine, Morgantown, WV 26506.**

**RESEARCH ASSOCIATE.** Available for study of regulation of DNA repair genes. Work will include recombinant DNA and molecular biological techniques. Goals include definition of genetic regulation of DNA repair and mutagenesis. Work environment excellent with large postdoctoral population in a superior department. Box 196, SCIENCE.



### RESEARCH SCIENTIST PLANT TISSUE CULTURE

**IPRI**, an agricultural biotechnology company located in the San Francisco Bay Area, is developing and commercializing plant products. Your work in tissue culture will interface with our molecular biology and plant breeding groups. If you have a Ph.D. and experience in plant biochemistry, protoplast culture, and plant regeneration or transformation, you are encouraged to apply. Submit résumé with three or more references to:

**Personnel  
International Plant Research Institute  
830 Bransten Road  
San Carlos, CA 94070  
Equal Opportunity Employer**

## POSITIONS OPEN

### RADIOCHEMIST

The University of Iowa College of Medicine, Department of Radiology, and its affiliated VA Medical Center seek a well-qualified individual with Ph.D. in organic chemistry and qualifications in health physics as applied to nuclear medicine. Experience in isotopic labeling of monoclonal antibodies and labeling of physiologic compounds with positron-emitting isotopes is highly desirable.

Address inquiries to: **Mr. Frank Weigelt, Administrator, Department of Radiology, University of Iowa Hospitals and Clinics, Iowa City, IA 52242.**

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

**RESEARCH ASSISTANT PROFESSOR.** Department of Microbiology, Georgetown University. The position is available immediately for an individual who will join a program on the development of virus vaccines. Candidate should have several years of postdoctoral research experience, a strong background in recombinant DNA techniques, experience in adenovirus gene expression, and evidence of previous publications in these areas. Qualified candidates send résumé and names of three references to: **Dr. N. P. Salzman, Department of Microbiology, Georgetown University Medical Center, 3900 Reservoir Road, NW, Washington, DC 20007. An Affirmative Action/Equal Opportunity Employer.**

**RESEARCH TECHNOLOGIST OR SCIENTIST:** New, fast-developing cancer research company has opening for research technologist or scientist, depending on qualifications. Suitable candidate should be experienced in immunoperoxidase staining with monoclonal antibodies, and possess supervisory skills. Experience in monoclonal antibody production and characterization considered an advantage. M.Sc. or Ph.D. required. Résumés only to: **Personnel, Neorx Corporation, 410 West Harrison Street, Seattle, WA 98119.**

### SENIOR FACULTY POSITION

The Department of Biochemistry and Molecular Biology at the University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, is seeking an outstanding, established scientist who uses the tools of molecular biology to study aspects of differentiation or development. The appointment will be to a full professorial position with a named chair and endowment. The Department of Biochemistry and Molecular Biology currently consists of 11 faculty members at all levels who are interested in differentiation or development. Qualified individuals should send their curriculum vitae and summary of research interests by 15 December 1986 to: **Dr. William J. Lennarz, Department of Biochemistry and Molecular Biology (Box 117), The University of Texas System Cancer Center, 6723 Bertner Avenue, Houston, TX 77030. An Affirmative Action/Equal Opportunity Employer.**

### TWYFORD U.S.A. CALIFORNIA Tissue Culture Research

Several positions are immediately available at **Twyford Plant Laboratories, Inc.**, a biotechnology and plant production company in California. The positions are:

**PLANT PATHOLOGY**—Pathology program in laboratory and greenhouse. Disease indexing for plant material.

**MICROPROPAGATION**—Develop system for new crops and improve production efficiency.

**PLANT CELL AND TISSUE CULTURE**—Working on another culture, embryo rescue, and somatocline variation on various horticultural crops.

Persons with industrial experience and research management are encouraged to apply. Send applications to the attention of **Dr. Irwin Chu** at:



**TWYFORD PLANT LABORATORIES, INC.  
15245 Telegraph Road  
Santa Paula, CA 93060**

*An Affirmative Action/Equal Opportunity Employer*

## POSITIONS OPEN

**RESEARCH CARDIOLOGIST.** Academic Division of Cardiology is seeking an M.D., Ph.D. with proven experience in an area of basic science (for example, receptors molecular biology) to develop research laboratory. Current areas of active experimental research include myocardial ischemia and studies on myocardial contractility. Excellent salary and fringe benefits. Should be eligible for assistant/associate professorship at State University of New York-Stony Brook. Send curriculum vitae in confidence to: **Monty M. Bodenheimer, M.D., Chief, Division of Cardiology, LONG ISLAND JEWISH MEDICAL CENTER, New Hyde Park, NY 11042. An Equal Opportunity Employer.**

### OREGON REGIONAL PRIMATE RESEARCH CENTER REPRODUCTIVE BIOLOGIST

The Division of Reproductive Biology and Behavior of the Oregon Regional Primate Research Center has an opening for a reproductive biologist. Scientists who use molecular approaches in their research and who are interested in the male reproductive system are especially urged to apply. Candidates should also be interested in extending their research to nonhuman primates. Appointment will be at the level of assistant scientist (assistant professor) or above. Salary and rank will be commensurate with experience. Opportunities for joint appointments in relevant departments of the Oregon Health Sciences University are excellent. Applicants should send their curriculum vitae, the names of three references, and a summary of their future research goals to: **Dr. Robert M. Brenner, Head, Division of Reproductive Biology and Behavior, Oregon Regional Primate Research Center, 505 NW 185th Avenue, Beaverton, OR 97006. The Oregon Regional Primate Research Center is an Equal Opportunity/Affirmative Action Employer.**

## SYMPOSIUM

### SYMPOSIUM ON T-CELL BIOLOGY AND CLONING 10 to 11 January 1987 Duke University Durham, North Carolina

Cosponsored by **The North Carolina Biotechnology Center and Fisher Scientific.** Presentation and workshop topics: T-cell ontogeny, receptor repertoire, accessory molecules and activation, lymphokines and cell cycling, MHC restriction and function, and cloning methodology.

For further information, registration materials, and abstract submissions contact: **Ray Zwyciewicz, North Carolina Biotechnology Center, Box 13547, Research Triangle Park, NC 27709; telephone: 919-541-9366. Registration fee: \$75. Registration is limited to 200.**

## TRAINING PROGRAM

### MOLECULAR BIOLOGY AND GENETICS VIROLOGY AND PATHOGENESIS DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY AND MOLECULAR RESOURCE CENTER UNIVERSITY OF TENNESSEE—MEMPHIS

The University of Tennessee announces an interdepartmental **TRAINING PROGRAM** for predoctoral candidates. Faculty in the Departments of Microbiology and Immunology, Medicine, and Pediatrics participate as preceptors for research training. The **MOLECULAR RESOURCE CENTER** staff, an integral component of the Department of Microbiology and Immunology, conduct workshops for hands-on training in DNA cloning and sequencing and hybridoma production, as well as providing custom synthesis of oligonucleotide and polypeptide reagents and specific monoclonal antibodies. Areas of research include prokaryotic and eukaryotic molecular biology and genetics, virology, immunology, microbial physiology, and pathogenesis. Predoctoral stipend is \$8000 per year, plus full tuition. For detailed information, contact: **Dr. Antonino Incardona, Department of Microbiology and Immunology, University of Tennessee, Memphis, TN 38163. An Equal Opportunity/Affirmative Action Employer.**

# SCIENTISTS & POSTDOCTORAL RESEARCHERS

Genentech, Inc., is a research and development company which is utilizing state-of-the-art technology to produce pharmaceutical products for the prevention and treatment of a variety of human diseases. We currently have several positions open at the Scientist and Postdoctoral levels.

Genentech's postdoctoral program is designed to give highly qualified PhDs research experience in a stimulating, exciting environment. Scientist level personnel are expected to have successfully completed a postdoctoral research program.

Genentech research personnel are expected to participate in the planning and execution of scientific projects and are encouraged to share their results with the scientific community through publication and attendance at professional meetings. Our company has an excellent publication record, and our postdoctoral scientists have gone on to secure attractive positions in both industry and academics. We are now seeking Scientists and Postdoctoral Researchers in the following areas:

**BIOPHARMACEUTICS — ASSOCIATE SCIENTIST:** Individuals who are highly motivated and skilled in studying the mode of action, delivery and targeting of recombinant protein in animal models and have at least 1 year of postdoctoral training in animal physiology and general biochemistry with an emphasis on vascular and membrane transport will qualify. Ability to work with rodents and other laboratory animals is essential, along with knowledge of pulmonary and gastrointestinal physiology and experience with biodispositional studies using radioisotope markers, general histological techniques, light and electron microscopy highly desirable. Major projects include studies of non-parenteral delivery of growth hormone and targeting antiviral and immunomodulatory agents to the immune system. (#0534)

## **MOLECULAR BIOLOGY — SCIENTIST:**

Individuals with at least 5 years postdoctoral training and experience utilizing flow cytometry in immunology / molecular biology for cell sorting and phenotypic analyses will be responsible for supervising FACS technicians and developing new techniques utilizing flow cytometry and immunology. Knowledge of cytokine and growth factor immunobiology is desirable. Ability to initiate research programs is essential along with excellent communication skills in both verbal and written work. (#05SW)

## **BIOLOGICAL CHEMISTRY — SCIENTIST:**

An individual with a strong background in cell biology and biochemistry is being sought to investigate the basic mechanisms of action of growth hormone and other proteins at the molecular and cellular level and to develop cell-based assays which reflect these bioactivities. The successful candidate should have several years of post-graduate experience and extensive hands-on experience with cell culture and receptor binding techniques. Experience with the development of immunoassays and with protein / receptor purification highly desirable. (#0499)

**PHARMACEUTICAL SCIENCES — POSTDOCTORAL RESEARCHERS:** An individual with a PhD and research experience in molecular biology is being sought to study the cellular mechanisms of tumor cell resistance to mediators of host defense. The successful candidate will have a thorough grounding in the basic techniques of molecular biology and a strong interest in growth factors and their role in tumorigenesis along with a desire to join a highly motivated and multidisciplinary group. (#0429)

Genentech, Inc. offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send resume (indicating position title and number) to Human Resources Department, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.



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## PROGRAM

### CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with a doctorate-level degree in science the opportunity to earn the doctor of optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: **Dr. D. M. Chauncey, Ph.D.-O.D. Program Director, The New England College of Optometry, 424 Beacon Street, Boston, MA 02115; telephone: 617-266-2030, extension 147.**

## WORKSHOP

### NATO ADVANCED RESEARCH WORKSHOP BACTERIA, COMPLEMENT AND THE PHAGOCYTIC CELL 6 to 10 April 1987 Acquafreda di Maratea, Italy

#### Invited Speakers and Participants include

E. Beachey/Memphis	R. Moxon/Oxford
B. Bitter-Suerman/Mainz	I. Ofek/Tel Aviv
V. Braun/Tubingen	E. Podack/New York
F. Cabello/New York	C. Pruzzo/Genoa
A. Cross/Washington	J. Sadoof/Washington
M. Horwitz/Los Angeles	G. Satta/Cagliari
K. Jann/Freiburg	J. Scott/Atlanta
K. Joiner/Bethesda	K. Svanborg-Eden/ Goteborg
R. P. Levine/Saint Louis	K. Timmis/Geneva
H. Makela/Helsinki	J. Verhoef/Utrecht

Participation limited to 45 participants

There is a small number of fellowships available for graduate students and postdoctoral fellows.

Write: **Dr. F. Cabello, Department of Microbiology and Immunology, New York Medical College, Valhalla, NY 10595; telephone: 914-993-4182.**

## FELLOWSHIPS

**FELLOWSHIPS.** Stanford University's Center for International Security and Arms Control announces 1-year fellowships designed to provide mid-career scientists an opportunity for study in problems related to international security, defense policy and planning, and arms control starting fall 1987. Application deadline is 20 February 1987. For information, contact: **Center, 320 Galvez Street, Stanford, CA 94305-6165.**

### STAFF FELLOWSHIP NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

Ph.D. or M.D. must have training in molecular biology to study genetic defects in human phagocytic cell function.

Submit curriculum vitae and three references to, or obtain information by contacting:

**Harry L. Malech, M.D.**  
Head, Bacterial Diseases Section  
Laboratory of Clinical Investigation  
Building 10, Room 11N112  
Telephone: 301-496-1343  
*An Equal Opportunity Employer*

### RESEARCH/MUSEUM FELLOWSHIPS AMERICAN MUSEUM OF NATURAL HISTORY New York, NY

Research/Museum Fellowships are available to postdoctoral researchers and established scholars starting in summer and fall 1987. Areas include vertebrate and invertebrate zoology, paleozoology, anthropology, mineral sciences, and the field of museum education as it relates to natural history museums or planetariums. Deadline for applications including Chapman Fellowships (ornithology) is 15 January. Request information booklet and application from:

**Office of Grants and Fellowships  
American Museum of Natural History  
Central Park West at 79th Street  
New York, NY 10024**

## FELLOWSHIPS

### C. H. BEST FOUNDATION POSTDOCTORAL FELLOWSHIPS

In diabetes research, molecular endocrinology, molecular biology, differentiation, reproductive biology, immunology, structure and function of membranes, or lipid metabolism. Tenable in the Banting and Best Department of Medical Research for 2 years after 1 July 1987 with a competitive stipend. Available to new Ph.D.'s or candidates with less than 2 years of postdoctoral training by 30 June 1987. Send curriculum vitae, transcripts, and three letters of reference preferably before 30 November 1986 to: **Dr. Terry Delovitch, Fellowship Committee Chairman, Banting and Best Department of Medical Research, University of Toronto, Toronto, Ontario, Canada M5G 1L6.**

**Dr. Terry Delovitch  
Search Committee Chairman  
C. H. Best Institute  
University of Toronto  
Toronto, Ontario, Canada M5G 1L6**

**POSTDOCTORAL FELLOWSHIP.** Coastal Marine Scholar: The State University of New York (SUNY) at Stony Brook's Marine Sciences Research Center is seeking a recent Ph.D. for a postdoctoral research position in any aspect of marine science, coastal zone management, or related disciplines. Twenty-one months of stipend will be provided (\$22,080 for 12 months). Scholars are encouraged to pursue their own research interests and to contact potential faculty sponsors regarding supplementary support. Preference will be given to candidates whose interests overlap with those of MSRC faculty. All requirements for Ph.D. must be completed by time of appointment. Submit résumé, detailed statement of research interests, and three letters of recommendation by 1 January 1987 to: **Dr. M. I. Scranton, Marine Sciences Research Center, SUNY-Stony Brook, Stony Brook, NY 11794-5000.**

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For further information, contact:

**Bonnie Cuthbert  
Department of Cell Biology  
Baylor College of Medicine  
Houston, TX 77030  
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DEADLINE—30 January 1987

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### U.S. POSTAL SERVICE

Statement required by the Act of 12 August 1970, Section 3685, Title 39, United States Code, showing the ownership, management, and circulation of:

1-6. *Science* is published weekly on Friday, except the last week in December, at 1333 H Street, NW, Washington, DC 20005. Date of filing: 17 October 1986. This is also the address of the publisher, the editor, and the managing editor, who are, respectively, William D. Carey, Daniel E. Koshland, Jr., and Patricia A. Morgan.

7. The owner is American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005. Stockholders: None.

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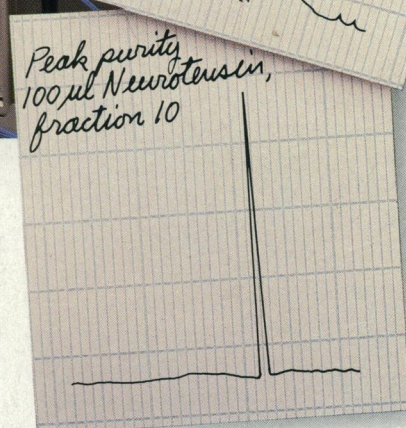
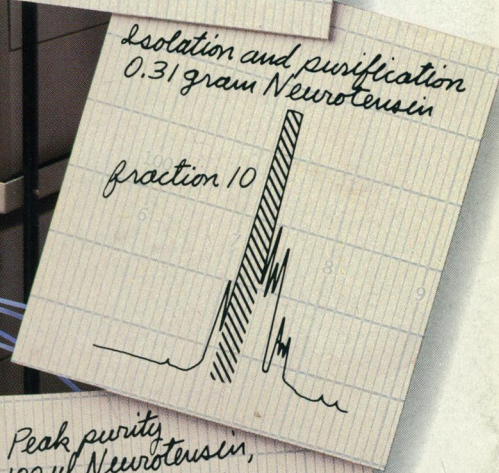
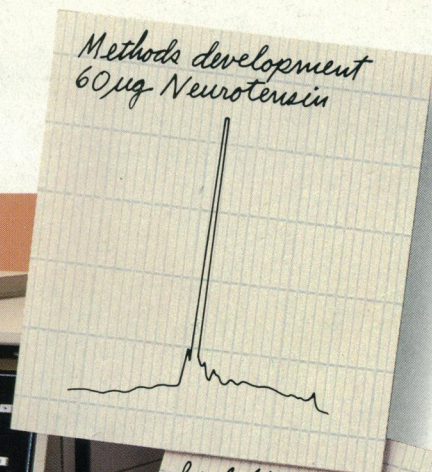
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