

tions on all types of detectors used today, with discussions of how a particular detector works, what it measures about particles, and the relative advantages and disadvantages of different detector types. Included in this part of the book are chapters on the fast electronics needed to extract signals from detectors and on the triggering electronics needed to recognize in real time interesting events—both crucial considerations in designing an experiment.

Fernow has done an admirable job of condensing a wealth of information into a coherent text. Occasionally the book's breadth of scope precludes discussion at desirable depth, but this is compensated by an extensive set of references at the end of each chapter. All that is needed to make the book a complete introduction to experimental particle physics is a discussion of analysis techniques for extracting results from the data produced by the detectors. There is a short appendix on probability and statistics.

This book would serve well as either a graduate-level textbook or a practical reference. Students will benefit from the clearness of presentation, the numerous exercises at the end of each chapter, and the references. The practicing experimentalist will benefit from the references and the numerous equations, formulas, and tables. The book uses no higher mathematics beyond calculus, and the only physics background needed is an undergraduate-level understanding of electromagnetism and special relativity.

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Women Scientists

Hypatia's Heritage. A History of Women in Science from Antiquity through the Nineteenth Century. MARGARET ALIC. Beacon, Boston, 1986. x, 230 pp., illus. \$20; paper, \$9.95.

For a long time, scientists and historians of science have tended to deny women's contributions to the scientific enterprise. Even some feminist scholars have tacitly acquiesced in the invisibility of women in the historical record of scientific achievement. (See, for example, Evelyn Fox Keller's *Reflections on Gender and Science*, in which she pointedly insists on the pronoun "he" when referring to scientists because she avers that until very recently women were not scientists.) In recent years there has been less excuse for this stance. Pathbreaking monographs such as Margaret W. Rossiter's *Women Scientists in America*, an array of

field-by-field surveys, and studies of individual figures have illuminated the role of women in a large number of scientific disciplines, historical periods, and cultural settings. Until now, however, the charming but idiosyncratic *Woman in Science* by H. J. Mozans (J. A. Zahm), first published in 1913 and reprinted by MIT Press in 1974, was essentially the only book that attempted to provide a historical overview of women's contributions to scientific knowledge in a format accessible to students and interested laypeople.

Margaret Alic has done a creditable job of sifting through compendia of "women worthies," autobiographies, and a large amount of secondary literature to produce a lively and well-written popular chronicle of some famous, near-famous, and infamous women scientists from antiquity to the end of the 19th century. *Hypatia's Heritage* contains entertaining accounts of the lives and work of Egyptian and Babylonian chemists, Greco-Egyptian mathematicians and natural philosophers (including, of course, "the last of the great pagan scientists," Hypatia of Alexandria), medieval alchemists and cosmologists, 17th- and 18th-century geologists, astronomers, physicians, physicists. Students in a wide range of beginning history, history of science, science, and women's studies courses would benefit from having *Hypatia's Heritage* as a required text. Most students will be astonished to learn of the large numbers of women who have distinguished themselves in diverse fields of scientific endeavor. The book should stimulate class discussion on a variety of issues: the changing status and visibility of women in science in relation to the sociopolitical-cultural milieu, the reasons for the rewriting of the historical record to exclude women's accomplishments, whether there exists a distinctive feminine style of doing science, how professionalization of science affected women's status, and so on.

For the historian of women in science, however, *Hypatia's Heritage* does not add anything new to our understanding of women's role in scientific work. In fact, Alic does not even cite recent articles and monographs by Rossiter, Roger Cooke, Daryl Hafter, Margaret Kidwell, Dorothy Stein, Jeanette Tuve, and numerous others, all of which have a direct bearing on the subject of her book and provide more complete and accurate information than the sources she used. Any historian of 19th-century science will surely quarrel with Alic's assessment of Mary Fairfax Somerville (1780–1872) as a great scientist, "the last of the great amateur scientists." And the placement of Somerville, who was an expositor rather than a researcher, at the culmination of the book, following Sophie Germain (1776–1831),

Ada Byron Lovelace (1815–1852), and Sofia Kovalevskaja (1850–1891), is questionable not only on chronological grounds but also because of the wrong impression Alic gives of Somerville as the greatest and most recognized of 19th-century women scientists.

Despite these and other defects annoying to the specialist (Alic's footnotes are neither so complete nor so informative as one could wish, and her choice of whom to highlight is sometimes puzzling), *Hypatia's Heritage* fills a gap in the general literature of the history of science and is therefore welcome. Historians of science, scientists, and teachers of women's studies no longer have an excuse for omitting a book on the history of women in science from beginning and survey courses. In the hands of an informed instructor, *Hypatia's Heritage* could be a stimulating addition to the curriculum.

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Books Received

Ada. Managing the Transition. Peter J. L. Wallis, Ed. Cambridge University Press, New York, 1986. viii, 280 pp., illus. \$39.50. Ada Companion Series. From a workshop, Edinburgh, May 1986.

Adaptive Control of Chemical Processes. H. Unbehauen, Ed. Published for the International Federation of Automatic Control by Pergamon, New York, 1986. x, 216 pp., illus. \$51. From a workshop, Frankfurt, Oct. 1985.

Adaptive Management of Renewable Resources. Carl Walters. Macmillan, New York, 1986. x, 374 pp., illus. \$34.95. Biological Resource Management.

Advantage and Disadvantage. A Profile of American Youth. R. Darrell Bock and Elsie G. J. Moore. Erlbaum, Hillsdale, NJ, 1986. x, 230 pp., illus. \$29.95.

Agricultural Uses of Antibiotics. William A. Moats, Ed. American Chemical Society, Washington, DC, 1986. x, 189 pp., illus. \$39.95. ACS Symposium Series, 320. Based on a symposium, Chicago, Sept. 1985.

The Changing Carbon Cycle. A Global Analysis. John R. Trabalka and David E. Reichle, Eds. Springer-Verlag, New York, 1986. xxvi, 592 pp., illus. \$53. Based on a symposium, Knoxville, TN, Oct. 1983.

Chaotic Dynamics and Fractals. Michael F. Barnsley and Stephen G. Demko, Eds. Academic Press, Orlando FL, 1986. xii, 292 pp., illus. \$29.95. Notes and Reports in Mathematics in Science and Engineering, Vol. 2. From a conference, Atlanta, March 1985.

Chemical Separations. C. Judson King and James D. Navratil, Eds. Litarvan, Denver, 1986. 2 vols. Vol. 1, Principles. xiv, 462 pp., illus. \$77. Vol. 2, Applications. x, 469 pp., illus. \$77. The set, \$140. Based on a conference, New York, April 1986.

Children's Social Behavior. Development, Assessment, and Modification. Phillip S. Strain, Michael J. Guralnick, and Hill M. Walker, Eds. Academic Press, Orlando, FL, 1986. xiv, 460 pp., illus. \$55.

Chrysophytes. Aspects and Problems. Jørgen Kristiansen and Robert A. Andersen, Eds. Cambridge University Press, New York, 1986. xiv, 337 pp., illus. \$52.50. From a symposium, Grand Forks, ND, Aug. 1983.

Disarmament and World Development. Mac Graham, Richard Jolly, and Chris Smith, Eds. 2nd ed. Pergamon, New York, 1986. xiv, 306 pp. \$25; paper, \$15.95. Based on a conference.

Disequilibrium and Self-Organisation. C. W. Kilmister, Ed. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). x, 309 pp., illus. \$76. Mathe-

maties and Its Applications. Based on two meetings, Klosterneuburg, Austria, 1983, and Windsor, U.K., 1985.

Encyclopedia of Statistical Sciences. Vol. 7, Plackett Family of Distributions to Regression, Wrong, M. H. DeGroot *et al.*, Eds. Wiley-Interscience, New York, 1986. xii, 714 pp., illus. \$95.

Energy and the Atmosphere. A Physical-Chemical Approach. I. M. Campbell. 2nd ed. Wiley, New York, 1986. x, 337 pp., illus. \$57.

The Enigma of Loch Ness. Making Sense of a Mystery. Henry H. Bauer. University of Illinois Press, Urbana, 1986. xiv, 245 pp., illus. \$22.95.

Environmental Law. Air and Water. William H. Rodgers, Jr. West, St. Paul, MN, 1986. 2 vols. Vol. 1, Sections 1.1 to 3.41. xxvi, 588 pp. Vol. 2, Sections 4.1 to End, Tables-Index. xviii, 805 pp. \$170.

Environmental Planning. A Condensed Encyclopedia. Alan Gilpin. Noyes, Park Ridge, NJ, 1986. xxx, 348 pp., illus. \$48.

Envoys of Mankind. A Declaration of First Principles for the Governance of Space Societies. George S. Robinson and Harold M. White, Jr. Smithsonian Institution Press, Washington, DC, 1986. xxiv, 292 pp. \$19.95.

Geometry of CR-Submanifolds. Aurel Bejancu. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). xii, 169 pp., illus. \$49.50. Mathematics and Its Applications (East European Series).

The Great Whale Rescue. Tom Tiede with Jack Findleton. Pharos Books, New York, 1986 (distributor, Ballantine, New York). 151 pp. \$14.95.

Hadronic Matter in Collision. P. Carruthers and D. Strottman, Eds. World Scientific, Philadelphia, 1986. xiv, 537 pp., illus. \$56. From a workshop, Santa Fe, NM, April 1986.

Handbook of Biomaterials Evaluation. Scientific, Technical, and Clinical Testing of Implant Materials. Andreas F. von Recum, Ed. Macmillan, New York, 1986. xxiv, 611 pp., illus. \$120.

Local Representation Theory. Modular Representations as an Introduction to the Local Representation Theory of Finite Groups. J. L. Alperin. Cambridge University Press, New York, 1986. x, 178 pp., illus. \$29.95. Cambridge Studies in Advanced Mathematics, 11.

Making Cancer Policy. Mark E. Rushefsky. State University of New York Press, Albany, 1986. xiv, 257 pp., illus. \$39.50; paper, \$12.95. SUNY Series in Public Administration in the 1980s.

Manual of Acute Toxicity. Interpretation and Data Base for 410 Chemicals and 66 Species of Freshwater Animals. Foster L. Mayer, Jr., and Mark R. Ellersieck. U.S. Fish and Wildlife Service, Washington, DC, 1986 (available from the National Technical Information Service, Springfield, VA). iv, 506 pp. Paper, \$40.95. Resource Publication 160.

New Vistas in Electro-Nuclear Physics. E. L. Tomusiak, H. S. Caplan, and E. T. Dressler, Eds. Plenum, New York, 1986. viii, 491 pp., illus. \$79.50. NATO Advanced Science Institutes Series B, vol. 142. From an institute, Banff, Alberta, Canada, Aug. 1985.

Norbert Wiener: Collected Works with Commentaries. Vol. 4, Cybernetics, Science, and Society; Ethics, Aesthetics, and Literary Criticism; Book Reviews and Obituaries. P. Masani, Ed. MIT Press, Cambridge, MA, 1986. xx, 1083 pp., illus. \$70. Mathematicians of Our Time.

Organic Solvents. Physical Properties and Methods of Purification. John A. Riddick, William B. Bunger, and Theodore K. Sakano, 4th ed. Wiley-Interscience, New York, 1986. xviii, 1325 pp., illus. \$95. Techniques of Chemistry, Vol. 2.

The Particle Hunters. Yuval Ne'eman and Yoram Kirsh. Cambridge University Press, New York, 1986. xii, 272 pp., illus. \$49.50; paper, \$13.95. Translated from the Hebrew edition (Givatayim, Israel, 1983).

Past, Present, and Personal. The Family and the Life Course in American History. John Demos. Oxford University Press, New York, 1986. xiv, 215 pp. \$17.95.

Path Integrals from meV to MeV. M. C. Gutzwiller *et al.*, Eds. World Scientific, Philadelphia, 1986. xii, 453 pp., illus. \$49. Bielefeld Encounters in Physics and Mathematics, 7. Based on a symposium, Bielefeld, F.R.G., Aug. 1985.

Pattern Recognition by Humans and Machines. Eileen C. Schwab and Howard C. Nusbaum, Eds. Academic Press, Orlando, FL, 1986. 2 vols. Vol. 1, Speech Perception. xiv, 321 pp., illus. \$59.50; paper, \$29.95. Vol. 2, Visual Perception. xiv, 245 pp., illus. \$46.50; paper, \$23.95. Series in Cognition and Perception.

Relativistic Astrophysics. Marek Demiariski. Pergamon, New York, and PWN-Polish Scientific Publish-

ers, Warsaw, 1985. x, 341 pp., illus. \$50. International Series in Natural Philosophy, vol. 110. Translated from the Polish edition (Warsaw, 1978) by Antoni Pol.

Remote Sensing. Principles and Interpretation. Floyd F. Sabins, Jr. 2nd ed. Freeman, New York, 1986. xii, 449 pp., illus., \$47.95 + plates.

Renal Physiology. Principles, Structure, and Function. E. Koushanpour and W. Kriz. 2nd ed. Springer-Verlag, New York, 1986. xii, 390 pp., illus. \$49.

Reservoir Characterization. Larry W. Lake and Herbert B. Carroll, Jr. Academic Press, Orlando, FL,

1986. xii, 659 pp., illus. \$60. From a conference, Dallas, April 1985.

Science and Technology in the USA. Albert H. Teich and Jill H. Pace *et al.* Longman, Essex, U.K., 1986 (U.S. distributor, Gale Research Company, Detroit). xx, 408 pp., illus. \$95. Longman Guide to World Science and Technology, vol. 5.

The Science of Allelopathy. Alan R. Putnam and Chung-Shih Tang, Eds. Wiley-Interscience, New York, 1986. xiv, 317 pp., illus. \$52.50. Based on a symposium, Hawaii, Dec. 1984.

Software Reviews

Personal Bibliographic Databases

RUTH E. WACHTEL

Numerous database management systems are available for use on personal computers to help organize reference and reprint information. These packages allow a personal database to be created with references that are pertinent to the user's area of interest. They can rapidly retrieve reference information based on user-defined keywords and can also be used to prepare a bibliography for a manuscript.

A computer database used for references contains information about journal articles, book chapters, and other manuscripts, such as might be stored on index cards; the data on a particular card would be stored as a record within the database. Each item of information on the card would be in a field within that record. Examples of fields might be first author, second author, title, journal, year of publication, or any other information such as keywords or annotative comments that the user might want to append to the record.

To enter a reference into the database, the user must insert reference information into its corresponding field. Information may be typed from the keyboard or read directly into the database from existing files, such as those obtained from a national database or from a colleague. When each record has been entered into the database, a computer-assigned number is added to the record to identify it.

One advantage of storing information in a database is that references can be easily located. The user may want to find a particular paper but may remember the name of only one of the authors. The complete reference can be retrieved by searching the author fields to produce a list of all papers written by that author. If keywords that describe subject areas have been included in the reference entries, a search of keyword fields can produce a list of all papers related to a given subject. Copies of papers can be

located rapidly if they have been filed in numerical order based on their computer-assigned numbers.

Another useful feature of personal bibliographic software is in aiding the preparation of manuscripts for publication. To create a manuscript, a word processor is used to generate a textfile in which references are cited according to their computer-assigned numbers. The textfile can be read by the software, which uses computer-assigned numbers to produce a list of the cited references to be appended to the manuscript. The bibliography can be in any format specified by the user (usually the format specified by the journal to which the manuscript will be submitted). In addition, some packages are capable of rewriting the textfile to substitute authors' names in place of computer numbers or to renumber references sequentially within a paper.

Five software packages were evaluated in detail to compare their ease of use and to determine differences in their capabilities. A summary of their operating specifications and features is given in Tables 1 and 2. The programs were tested on an IBM PC-AT; most of the programs are also available for CP/M systems. Demonstration disks are available for \$20 to \$59 to allow users to preview the software before purchasing. The use of a hard disk is strongly recommended, since only 500 to 1000 references can be stored on a standard 360-kilobyte floppy disk. When the number of entries approaches this limit, the addition of new references

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Software Advisory Panel

Robert P. Futrelle	Joseph L. Modelevsky
David G. George	David A. Pensak
Daniel F. Merriam	Paul F. Velleman

Products & Materials

Flow Chart Software

Flow Charting II+ is a program for creating and printing flow charts. It allows the cursor to draw normal, bold, hollow, or dashed lines. Text may be entered in any of ten fonts. Charts may be printed on 8.5- by 11-, 8.5- by 14-, or 11- by 14-inch paper in draft or presentation quality print and in sideways or normal orientation. Flow Charting II+ allows full MS-DOS path support. It operates on the IBM PC. Patton & Patton. Circle 597.

Visual Stimulus System

VENUS is a visual stimulator for noninvasive monocular, binocular, or color electrodiagnostic testing. Researchers may selectively stimulate, record, and analyze activity from individual neural subsystems with differing receptive field properties. Abnormalities can be discovered that conventional stimuli do not reveal. Display frequency may be as high as 270 Hz. The pattern generator is computer-controlled, and 4,096 intensity levels are possible. Neuroscientific. Circle 655.

Cell Culture System

The OPTICELL 5200R Culture System is a benchtop culture system for producing monoclonal antibodies. It is self-contained in a constant-temperature housing with a clean air curtain, and it features real-time feedback. A dual-loop option allows the researcher to perform a controlled experiment with independent control of parameter settings with only one culture system. The OPTICELL 5200R's technology is directly scalable to larger than research quantities. Charles River Biotechnical Services. Circle 656.

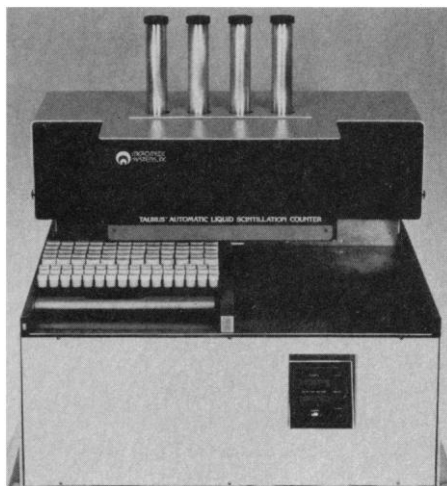
Laboratory Freezer

Model PR120-17 is a laboratory freezer for storage and preservation of tissue, plasma, blood cells, and other biological materi-

als. The steel cabinet has a counterbalanced lid and an air-cooled condenser. Temperature is adjustable between -18° and -85°C . Internal dimensions of the PR 120-17 are 175 by 50 by 53 cm. A recording thermometer and a buzzer alarm system are optional. So-Low Environmental Equipment. Circle 629.

Automatic Liquid Scintillation Counter

The TAURUS Automatic Liquid Scintillation Counter can count four standard or four miniscintillation vials simultaneously. It has a multiple assay stacking capability that allows the intermixing of assays that use either standard or miniscintillation vials and that allows the user to set up as many as six



assays to be counted through the use of any of the 16 user-entered and user-selected protocols. The protocols—including the counting parameters of isotope count time, quench, and background counts—may be customized for each user. The TAURUS features preset isotope settings for ^3H , ^{14}C , and ^{32}P . Micromedex Systems. Circle 594.

Nucleic Acid Purification Columns

NAP columns are designed for rapid and efficient purification of DNA, proteins, and oligonucleotides. Each column is prepacked and requires only gravity to operate. No purification in the NAP columns requires more than 15 minutes. A step-by-step protocol giving the fixed volumes needed for equilibration, washing, and sample elution is supplied with each package. The columns are available in sample volumes of 0.5-, 1.0-, and 2.5-ml and in packages containing either 20 or 50 columns. Pharmacia, Molecular Biology Division. Circle 657.

HPLC Curve Resolution

QuickRes 1.20 is a software program for mathematically separating components that coelute to a single fused peak set in high-performance liquid chromatography (HPLC). The program can mathematically resolve an impure peak into its components. The program then displays both the pure spectra and the individual profiles that have not been fully resolved by the chromatographic system. QuickRes requires no prior information on spectra, peak shape, or retention index. QuickRes operates on the Hewlett Packard ChemStation for HPLC. InfoMetrix. Circle 595.

2-D Electrophoresis

The Mighty Small I and II Vertical Slab Units perform both dimensions of two-dimensional electrophoresis in the small gel format. As many as six tube gels 7 cm long and 1.5 mm in diameter may be cast at one time. Gels not used immediately for a 2-D separation may be frozen for later use. Special stoppers make it possible to operate with fewer than six gels at once. During operation, the gel tubes are completely surrounded by the upper buffer. When tube gel separations are complete, the second dimension electrophoresis is performed by placing a focused tube gel on top of a 1.5-mm slab gel in the Mighty Small Vertical Slab Unit and operating at 200 V. Hoefer Scientific Instruments. Circle 621.

Literature

Chromatography Review: Advances in Chromatography and Laboratory Automation is a 16-page newsletter with articles about chromatography data storage and generation of summary reports, the memory barrier in computerized integrators, and an intercept optimization program for linear multilevel calibration. Spectra-Physics. Circle 634.

Optical Instrumentation Catalog features metallographs, metallurgical microscopes, stereomicroscopes, and other optical instruments. Buehler. Circle 635.

Gas Chromatography Shortform Catalog features a line of products for gas and liquid chromatography. Tracor Instruments. Circle 605.

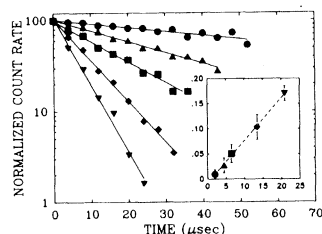
1987 Report on Statistical Software compares 28 statistical programs for the IBM PC, Kaypro, Apple II, and Macintosh computers. \$39.95. IGA Research. Circle 606.

The Wilmad Reporter discusses factors influencing nuclear magnetic resonance tube quality and proper selection of NMR tubes. Wilmad Glass. Circle 607.

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

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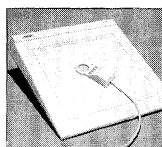
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Chemical Engineer seeks position in biotechnology industry, converting research into production processes. Over 3 years' hands-on experience in chemical process engineering and production supervision. Also R&D experience. Box 21, SCIENCE. 2/27; 3/6

Clinical Chemist/Biomedical Scientist, Ph.D. Recently completed COMACC-approved clinical biochemistry postdoctoral fellowship. Twelve years' atherosclerosis research on blood platelet/vessel wall interactions. Experience with clinical test development, antibody production, prostaglandin assays, cell metabolism, tissue culture, animal studies, blood platelet technology. Twenty-one publications. Seeking a position in R&D, or clinical laboratory management. Box 18, SCIENCE. X

Immunodiagnosics. Biochemist Ph.D. Five years of industrial R & D experience. Self-test pregnancy EIA and clinical chemistry instrument development. RIA product improvement, process development and manufacturing experience. Postdoctoral and supervisory skills. Innovative entrepreneur—NIH SBIR grant awardee 1985. Available now, will relocate. Box 26, SCIENCE. X

POSITIONS WANTED

Immunologist, Ph.D. Six years' industrial assay development (FIA, EIA) and monoclonal antibody experience (4 years management). Box 22, SCIENCE. 2/27; 3/27

M.D., American trained. Board-certified anatomic pathology. Five years' research experience at NIH, molecular biology, biochemistry. Actively engaged in research. Seeks position academic or industrial setting where opportunities exist to combine interest in research with medical knowledge. Box 23, SCIENCE. X

POSITIONS OPEN

ANATOMIST/CELL BIOLOGIST

Applications are invited for a tenure-track faculty position in the Department of Anatomy at the instructor level starting July 1987. Candidates must have postdoctoral training and demonstrated capability to successfully compete for extramural research support. Preference will be given to individuals who have directed and/or taught human gross anatomy to physical therapy students for a minimum of 2 years and who utilize cellular and molecular approaches in biological investigations. The appointment emphasizes research and an academic experience which will permit the individual to serve as Course Director, assume responsibility for lectures, laboratory, and development of teaching aids for the physical therapy course. The individual is also expected to be able to teach a graduate level course and participate in committee activities related to the Physical Therapy program. Candidates must respond by 15 March 1987 with curriculum vitae, a statement of past and future research directions and the names and addresses of three references to: Dr. W. S. Vasan, Chairman of Search Committee, Department of Anatomy, University of Medicine and Dentistry of New Jersey (UMDNJ)—New Jersey Medical School (NJMS), 185 South Orange Avenue, Newark, NJ 07103-2757. Applications from women and minority candidates are encouraged. UMDNJ-NJMS is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT DIRECTOR, Conservation Data Center Support. The Latin American Program is expanding the network of Conservation Data Centers. Assume leadership role to provide technical and scientific support to network, assist in repatriation of data, negotiate and administer contracts. Requires advanced degree in biology (preferably ecology or systematics), fluency in English and Spanish. Send résumé and cover letter by 20 March 1987 to: Richard Warner, The Nature Conservancy (TNC), 1785 Massachusetts Avenue, NW, Washington, DC 20036. TNC is an Affirmative Action/Equal Opportunity Employer.

Department of Biological Sciences. **ASSISTANT PROFESSOR,** full-time, tenure-track position. Teach courses in general ecology, aquatic biology, and other biological courses in areas of expertise. Desire certified fisheries scientist (AFS), who will maintain a strong relationship with state and federal environmental agencies. Doctorate preferred. Applicants should send a letter of application, current résumé, names of three references, and other credentials by 20 March 1987 to: Dr. Robert C. Scherer, Chairman, Search Committee, Department of Biological Sciences, Lock Haven University, Lock Haven, PA 17745. Lock Haven University is an Affirmative Action/Equal Opportunity Employer.

WASHINGTON UNIVERSITY MEDICAL SCHOOL ASSISTANT PROFESSOR DEPARTMENT OF PHARMACOLOGY

Applications are invited from outstanding candidates for a highly competitive tenure-track faculty position. Extensive postdoctoral experience emphasizing mechanistic approaches to pharmacological problems are preferred. Send curriculum vitae, reprints, a description of current/future research plans, and three letters of reference to: Dr. Philip Needleman, Department of Pharmacology, Washington University Medical School, 660 South Euclid, Saint Louis, MO 63110. Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

DEPARTMENT OF ANATOMY

The Department of Anatomy at Northeastern Ohio Universities College of Medicine invites applications for a tenure-track position at the assistant or associate professor level. Individuals with research experience and expertise in molecular and cell biology, and electron microscopy are encouraged to apply. Current departmental research interests include muscle biology and neuroendocrinology. Teaching responsibilities are in microscopic anatomy. The successful candidate should have, (i) teaching experience in microscopic anatomy; (ii) publications; and (iii) a demonstrable potential for, or a proven record of, extramural funding. The Department is well equipped and there is excellent administrative support for research and teaching. Send curriculum vitae, bibliography, statement of teaching and research goals, research funding (past and present), and the names of at least three references no later than 15 April 1987, to: Norman Taslitz, Ph.D., c/o The Office of Human Resources, Northeastern Ohio Universities College of Medicine, Rootstown, OH 44272.

An Equal Opportunity/Affirmative Action Employer.

ASSISTANT OR ASSOCIATE SCIENTIST position available in area of human neuromotor control. Should have Ph.D. with some neuroscience emphasis and interest in mechanisms underlying control of orofacial and/or upper extremity movement. Individual will join ongoing research in normal adults. Optional involvement in experiments on movement disorders and motor development. Postdoctoral research experience desirable but not necessary. Salary competitive. Send curriculum vitae and names of three references to: J. Abbs, Director, Speech Motor Control Laboratories (SMCL); 1500 Highland Avenue; University of Wisconsin; Madison, WI 53705-2280; Telephone: 608-263-5907. *Equal Opportunity/Affirmative Action Employer.*

DEPARTMENT OF BIOLOGY—Applications are invited for a tenure-track **ASSISTANT PROFESSOR** position in vertebrate biology, to begin fall trimester 1987. Teaching responsibilities include: vertebrate field biology, comparative anatomy, a course in the candidate's major vertebrate group of specialization (which has traditionally been ornithology), and contributions to an interdisciplinary general curriculum. A strong field orientation and ability to involve undergraduate students in independent research projects are essential. A research interest in the area of quantitative ecology would be very valuable. Hobart and William Smith Colleges is a highly selective liberal arts institution located in the Finger Lakes region of New York state, which values both teaching and research. Applicants should arrange to have their curriculum vitae, a statement of teaching and research interests, and three letters of recommendation received by 13 March 1987. Send to: Dr. Joel T. Kerlan, Chairman, Department of Biology, Hobart and William Smith Colleges, Geneva, NY 14456. *An Equal Opportunity/Affirmative Action Institution.*

POSITIONS IN BIOCHEMICAL PHARMACOLOGY: ASSISTANT SCIENTIST AND POSTDOCTORAL LEVEL POSITIONS available to study molecular and cellular events involved in chemical carcinogenesis. Applicants should have experience and/or interest in the use of immunochemistry, cell markers, and primary hepatocyte cell culture to study precancerous cell populations. Private, internally funded research foundation. Salaries competitive; full fringe benefits; possible permanent positions. Send curriculum vitae and research résumé to: Dr. David P. Ringer, Head, Biochemical Pharmacology Section, Biomedical Division, The Samuel Roberts Noble Foundation, Inc., P.O. Box 2180, Ardmore, OK 73402.

BIOCHEMIST/CHEMIST: Assistant professor. Renewable non-tenure position beginning 8 September 1987. Possible change to tenure-track position later. Salary range: \$19,348 to \$31,842. Ph.D. in biochemistry with strong chemistry background or Ph.D. in chemistry with extensive training and laboratory experience in biochemistry required. Teaching experience desired. Deadline for completed application 8 April 1987. Telephone 507-457-5290 or send application form requests to: Biochemistry Search, Affirmative Action Officer, Human Resources, Winona State University, Winona, MN 55987. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR—BACTERIAL PATHOGENESIS/IMMUNOLOGY, ASSISTANT OR ASSOCIATE PROFESSOR—VIROLOGY/EPIDEMIOLGY. The Department of Veterinary Science, University of Wisconsin-Madison invites applications for two faculty positions. **Assistant Professor—Bacterial Pathogenesis/Immunology**—tenure-track position. The candidate is expected to develop an independent research program with focus on the mechanisms of animal disease and to direct graduate student training. The primary teaching responsibility is a graduate level course in his/her area of research expertise. **Assistant or Associate Professor—Virology/Epidemiology**—tenure-track or tenure position. The candidate is expected to develop an independent research program with focus on the mechanisms of animal disease and to direct graduate student training. The primary teaching responsibility is a graduate level course in his/her area of research expertise. Opportunities exist for collaboration with other Veterinary Science faculty having programs in experimental pathology, immunology, molecular biology, virology, microbiology, reproductive and cardiopulmonary physiology and parasitology. Departmental facilities include a P3 laboratory. Candidates for both positions must possess a Ph.D. or D.V.M.-Ph.D. or equivalent. Submit curriculum vitae, description of research goals, teaching experience, and names of four references to: Dr. Gary A. Splitter, Professor, Department of Veterinary Science, 1655 Linden Drive, Madison, WI 53706.

The University of Wisconsin-Madison is an Affirmative Action/Equal Opportunity Employer.

MARY BALDWIN COLLEGE

Mary Baldwin College, a church-related liberal arts college for women, invites applications for position of **ASSISTANT PROFESSOR OF BIOLOGY** beginning September 1987. The successful candidate will have responsibility for molecular and general genetics, and comparative physiology, and will teach courses to majors and nonmajors in a liberal arts context. He/she will need to develop courses in an area of his/her own interest, as well as direct undergraduate research. *Mary Baldwin College is an Affirmative Action/Equal Opportunity Employer. Women and Minorities are encouraged to apply.* Send letter of application, résumé, transcripts, and three letters of recommendation to: James Lott, Dean of the College, Mary Baldwin College, Staunton, VA 24401. **Deadline for applications is 30 March 1987.**

BIOLOGICAL ANTHROPOLOGIST

EMORY UNIVERSITY seeks an outstanding biological anthropologist for a tenure-track position at the assistant professor level. Our growing department maintains a commitment to the unified conception of anthropology and sets a high standard of excellence. Candidates may represent any subfield of biological anthropology, and must show both outstanding research potential and excellence in teaching. Interest in general anthropology, as evidenced by willingness to teach a four-field introductory anthropology course at least occasionally, is desirable. Ph.D. required. Deadline 15 October 1987. Send letter of application, including curriculum vitae with names and addresses of three references, to: E. O. Smith, Chair of Search Committee, Department of Anthropology, Emory University, Atlanta, GA 30322. *Emory University is an Equal Opportunity/Affirmative Action Employer.*

BIOLOGY DEPARTMENT

BIOLOGY CHAIRPERSON: Tenure-track position as chairperson of 16-member department beginning September 1987. Applicants must have demonstrable administrative experience, college teaching experience in anatomy and physiology, a Ph.D., and a record of research accomplishment, plus a commitment to student research.

Applicants should submit curriculum vitae, a statement of research interests, plus the names, addresses, and telephone numbers of three references before the receipt deadline of 15 March 1987 to: Dr. William E. Peightel, Chairperson of Search Committee, Department of Biology, Shippensburg University, Shippensburg, PA 17257.

Shippensburg University is an Equal Opportunity/Affirmative Action Employer. Women and racial minorities are encouraged to apply.

POSITIONS OPEN

ASSOCIATE DEAN FOR RESEARCH

Reports to Vice President for Academic Affairs/Dean of the School of Medicine. Primary duty is to foster research activity in the School of Medicine. Includes: identifying potential sponsors; assisting faculty with proposals; facilitating interdisciplinary collaboration. Also, organizing and supervising programs for medical student and graduate student research. Supervises IRB; animal welfare committee and related research support activities. Advises on use in research of space, equipment, and other College resources. Experience in independent research and in review/management of federal research grants essential. Contact: Frank G. Standart, M.D., Vice President for Academic Affairs and Dean of the School of Medicine, Medical College of Ohio, C.S. 10008, Toledo, OH 43699.

An Equal Opportunity/Affirmative Action Employer.

BIOLOGIST—TEACHING POSITION. The Department of Biology, Emory University, invites applications for a teaching position at the assistant professor rank for a non-tenure-track, 1-year term renewable for up to 3 years. Ph.D. required, specialty open. Primary responsibility is to teach introductory biology courses for majors and nonmajors. Possibility for limited involvement in upper level courses. Send curriculum vitae, a statement on your philosophy of teaching, biology background and teaching experience, and the names, addresses and phone numbers of three references to: Dr. W. H. Murdy, Chairman, Department of Biology, Emory University, Atlanta, GA 30322. Closing date for receipt of applications is 15 March 1987. *Emory is an Equal Opportunity/Affirmative Action Employer.*

BIOLOGIST: Tenure-track position for September, 1987, to teach undergraduate courses in zoology and principles of biology. The successful candidate will be expected to conduct research and to supervise undergraduate and graduate research. A Ph.D. is preferred, and college-level teaching experience is required. Applicants should send curriculum vitae, a statement of research interests and plans, plus the names, addresses and telephone numbers of three references to: Dr. William E. Rogers, Department of Biology, Shippensburg University, Shippensburg, PA 17257. Receipt deadline for application materials is 15 March 1987. *Shippensburg University is an Equal Opportunity/Affirmative Action Employer. Women and racial minorities are encouraged to apply.*

BIOLOGY FACULTY POSITION THE UNIVERSITY OF MICHIGAN

The Department of Biology and the Women's Studies Program at the University of Michigan are considering an opening for a joint appointment at the tenured level. At this time we solicit inquiries from scientists who have an active research program in an area central to the interests of the Department of Biology and a proven interest in the field of women and science. We are particularly interested in identifying potential candidates who would be able to carry out a successful research program in biology and participate in the teaching and scholarship of the Women's Studies Program. Send inquiries or a letter of application with curriculum vitae to:

Chair
Biology/Women's Studies Position
Department of Biology
The University of Michigan
Ann Arbor, MI 48109-1048

A Non-Discriminating, Affirmative Action Employer.

COMPUTER SCIENTIST/ENGINEER IN ARTIFICIAL INTELLIGENCE—Several openings exist for scientists experienced in artificial intelligence, especially with electronic neural network background. The ideal applicant will have a medicine/biology background with a master's or Ph.D. in computer science, electrical engineering or related discipline. Experience with Symbolics, Lisp, Prolog, ART, KEE not necessary but desired. For those lacking extensive experience but with interest and academic qualification, we have additional opportunities at the postdoctoral level. For immediate consideration, send your résumé to: Human Resources, General Dynamics Data Systems Division, Western Center, MZ V2-5150-069, P.O. Box 85808, San Diego, CA 92138. *An Equal Opportunity Employer.*

POSITIONS OPEN

BIOLOGY DEPARTMENT

Indiana University of Pennsylvania (IUP) invites applicants for an assistant or associate professor in the Biology Department as supervisor of Environmental Health Program. This is a tenure-track position starting September, 1987.

Qualifications: Earned doctorate in an environmental health related field and professional field experience in environmental health. Certification by American Academy of Sanitarians or corresponding professional board is desirable.

Primary responsibilities will be to direct an environmental health program which emphasizes a strong basic science background, develop and teach a course in epidemiology, advise majors within the program, work closely with various health agencies, institutions, and industry to develop internship sites, prepare and coordinate application for accreditation of program; would also be expected to teach courses and conduct research in area of expertise. Department is committed to quality teaching and research.

Women and minority applicants are urged to apply. Submit résumé, undergraduate and graduate transcripts, and three letters of recommendation to: **Dr. J. G. Humphreys, Search Committee Chairman, Biology Department, Indiana University of Pennsylvania, Indiana, PA 15705.** Deadline for receipt of application is 27 March 1987. Telephone 412-357-2632.

IUP is an Affirmative Action/Equal Opportunity Employer.

BOTANIST

Person needed to revise *Flora of Missouri* (cooperative project of Missouri Department of Conservation and the Missouri Botanical Garden). Salary: \$22,416 annually. Location: St. Louis, Missouri. Requires M.S. in plant taxonomy and systematics, botany, or closely related field and 2 years of experience in botany-related work. Contact: **Missouri Department of Conservation, Personnel Section, P.O. Box 180, Jefferson City, Missouri 65102;** telephone: 314-751-4115 by 23 March 1987. Call either between 8:00 a.m. to 12:00 noon or 1:00 p.m. to 5:00 p.m.

Equal Opportunity Employer M/F.

Cardiovascular physiologist to join active laboratory studying mechanisms of salt-sensitive hypertension. Candidate should have a Ph.D. and postdoctoral research experience. Candidate may have a joint appointment in medicine and physiology. Send curriculum vitae and description of research experience to: **Theodore A. Kotchen, M.D., Professor and Chairman, Department of Medicine, West Virginia University Medical Center, Morgantown, WV 26506.**

DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF NEW ORLEANS is searching for a **CHAIRPERSON** and also a **SENIOR FACULTY MEMBER** to begin fall 1987. The department has 20 faculty members, and Ph.D. programs in applied biopsychology and applied developmental psychology. Applicants with a record of superior research accomplishments and a consistent history of extramural funding should send a curriculum vitae and have three letters of reference sent to: **James May, Ph.D., Professor and Chair, Department of Psychology, University of New Orleans, New Orleans, LA 70148.**

CHEMISTRY FACULTY POSITION. The Department of Chemistry at the University of California, Santa Cruz (UCSC) invites applications for a tenure-track faculty position effective fall 1987, Ph.D. required. Applications at any level will be accepted; however, senior level is preferred. We are particularly interested in candidates with a research commitment in the area of biochemistry and biophysics. The successful candidate will be expected to teach at both the undergraduate and graduate levels and be expected to develop a high quality research program. Curriculum vitae, a brief summary of research interests, future research directions, and three letters of reference, submitted in confidence, should be sent to: **Professor David Kliger, Chairperson, Department of Chemistry, University of California, Santa Cruz, CA 95064.** Complete application materials should be received by 30 April 1987. Please refer to provision 78-867. UCSC is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

COMPARATIVE PHYSIOLOGY: Biology Department seeks candidates for 2-year, nonrenewable appointment, September 1987. To teach comparative animal physiology plus developmental biology, neurobiology, or physiological ecology, as well as participate in team-taught introductory course. Active research program which can include senior undergraduates is expected. Send curriculum vitae, statement of research activities, and reference letters to: **Professor John L. Howland, Department of Biology, Bowdoin College, Brunswick, ME 04011 by 21 March 1987.** Bowdoin College is committed to Equal Opportunity through Affirmative Action.

DEPUTY GROUP LEADER for the Beamline Group within the Center for X-Ray Optics. The incumbent will be responsible for leadership of a design and fabrication team. This team will work primarily in support of the 1- to 2-GeV Synchrotron Radiation Source planned to be built at the Lawrence Berkeley Laboratory. Responsibilities will include design and fabrication of grazing incidence VUV/soft x-ray systems for both relay optics and spectroscopic applications. Unique and challenging high resolution system designs are involved with the added complication of significant photon beam power loading. The incumbent will provide managerial and technical guidance to scientists, engineers and technicians and will be responsible for budgetary matters. The incumbent will participate in management/project planning, scientific, technical and management reviews, and interact with high-level officials both internally and externally. Demonstrated experience and formal training at the Ph.D. level in optics and optical design or experience in the utilization of synchrotron radiation in the VUV/soft x-ray spectral region is required. Experience in astronomical or plasma physics x-ray optical systems would be considered relevant. Must have demonstrated leadership experience with scientific groups and management skills and abilities. A successful record of achievement is more important than the specific discipline in which the applicant obtained his/her optical experience. To apply, please send two copies of résumé to: **Lawrence Berkeley Laboratory, 1 Cyclotron Road, Employment Office 90-1042, Berkeley, CA 94720.** Refer to Job A/4030. An Equal Opportunity Employer M/F/H.

DIRECTOR

Young, fast-growing organization looking for a highly qualified, motivated individual to direct and implement a diverse array of residential educational programs for individuals of all ages at multiple locations in tropical and subtropical ecosystems involving terrestrial and coastal marine ecology. Must hold a Ph.D. degree, present a record of academic achievement, strong leadership background in interdisciplinary program development, demonstrated success in securing external research funding, excellent communication and interpersonal skills. Marketing potential a requisite. Send curriculum vitae and three references. Salary is highly competitive. **Everglades Center Outdoors, 39801 Ingraham Highway, Homestead, FL 33034.** Attention: Stephen Harty.



DIRECTOR INSTITUTE OF LABORATORY ANIMAL RESOURCES

The National Research Council/Commission on Life Sciences seeks a scientist/administrator to manage group of committees and staff preparing reports on laboratory animal science, animal models for biomedical research, care and use of laboratory animals, and surveys of laboratory animal usage and resources. Other related program areas may be added in the future.

Requires D.V.M., M.D., Ph.D., or equivalent in a biomedical field; substantial background and experience in laboratory animal issues and science; demonstrated organizational and communication skills; experience in proposal preparation and contract management; and the ability to work with committees of experts dealing with complex issues in a multitiered administrative structure.

Please send curriculum vitae to: **Position #456.001S, National Research Council, 2101 Constitution Avenue, NW, Washington, DC 20418.** An Equal Opportunity Employer.

POSITIONS OPEN

DEVELOPMENTAL BIOLOGIST. Hampden-Sydney College, a liberal arts college for men now enrolling 800 students, is seeking an individual with teaching experience and Ph.D. to teach introductory biology, developmental biology, comparative anatomy, and related courses. Research is supported and encouraged. This is a full-time, academic year, tenure-track position to be filled at the assistant professor level. Candidates should submit résumé, transcripts, and three letters of reference by 16 March 1987 to: **Dr. S. R. Gemborys, Chairman, Department of Biology, Hampden-Sydney College, Hampden-Sydney, VA 23943.** Hampden-Sydney College is an Equal Opportunity Employer.

DIRECTOR, MOLECULAR BIOLOGY

Henry Ford Hospital is currently seeking leadership for a new group to be established in molecular biology. The group would consist of four investigators, with the specific research fields not rigidly defined. Some possible areas are lymphocyte activation and differentiation, gene expression, oncogenes, lymphokines, growth factors, transplantation biology, immunology, and DNA probes. Our goal is to establish a high quality fundamental research program. The director would recruit three colleagues and provide overall direction for the program. Substantial support and space will be provided, and potential academic affiliations are feasible. The person we seek should be an acknowledged leading scientist, with a substantial publication record and history of peer-reviewed grant support.

Interested applicants should forward curriculum vitae and names of three references to: **Dr. Joseph D. Shore, Director of Research, Henry Ford Hospital, 2799 West Grand Boulevard, Detroit, MI, 48202.**

DIRECTOR, PYMATUNING LABORATORY OF ECOLOGY UNIVERSITY OF PITTSBURGH

The Department of Biological Sciences is seeking an **ECOLOGIST** to serve as a full-time faculty member on campus, and as Director of the Pymatuning Laboratory of Ecology. This field station is a well-equipped facility with a successful program of summer courses in terrestrial and aquatic ecology, graduate and faculty research projects, conferences, and the potential for year-round use. It is situated about 100 miles north of Pittsburgh. We seek an established scientist with a strong reputation in any branch of ecology who will assume the leadership role in the department's program in ecology and evolution. Experience in generating external funding is important, and some administrative background would be desirable. Most of all, we seek someone with the energy and creativity to undertake the planning and development of an expanded program in environmental biology, centered at the Pymatuning Laboratory, but closely integrated with the department's activities on the Pittsburgh campus. It is expected that one or possibly two junior appointments will be made available in the next two years as part of this program. Appointment is anticipated at the level of associate professor with tenure, beginning as early as September 1987.

Applications should include curriculum vitae, copies of recent publications, a statement of research interests and future plans, and the names and addresses of at least three potential references. Deadline for applications is 1 May, 1987. Address applications to: **Ecology Search Committee, Department of Biological Sciences, University of Pittsburgh, Pittsburgh, PA 15260.** An Equal Opportunity/Affirmative Action Employer.

THE UNIVERSITY OF CHICAGO

The Joseph P. Kennedy, Jr. Mental Retardation Research Center and the Department of Pharmacological and Physiological Sciences are recruiting new faculty with research interests related to the molecular and cellular biology of the nervous system. Applicants should send their curriculum vitae and bibliography, a brief statement of research interests and plans, and the names of three references to:

**Dr. Robert L. Perlman, Director
Kennedy Mental Retardation Research Center
Department of Pediatrics
The University of Chicago
5841 South Maryland Avenue, Box 413
Chicago, IL 60637**

From the time of its original charter, the principle of the University of Chicago has been to appoint scholars without regard to race, color, religion, sex or national origin.



Molecular Biologist

Collaborative Research, Inc., specializes in the development, manufacture and marketing of biotechnology products and services with commercial applications in the health care and food industries. We are looking for an individual to join our Molecular Genetics Department in improving the process for producing pharmaceutical proteins through the use of recombinant DNA technologies in yeast.

Candidates will possess a PhD and at least 2 years Postdoctoral experience in Molecular Biology, Biochemistry or a related field and will have experience in cloning and expression of genes, and in protein separation and characterization.

CRI is located just 20 minutes outside of Boston and offers an excellent benefits program. For consideration, please submit your C.V. or resume, list of publications and the names of 3 references to the Human Resources Department, Collaborative Research, Inc., Two Oak Park, Bedford MA 01730.

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ENTOMOLOGIST

This challenging opportunity offers you major program assignments involving internal consulting and applied research on insect behavior and control. This will afford you not only great technical challenge, but also high visibility to all levels of company management.

The qualified candidate should have experience in stored-product pests, insect control and biochemistry/physiology. Strong interpersonal communication skills are also important. **An advanced degree in Entomology is essential;** PhD preferred.

You will be joining Philip Morris U.S.A. — one of the world's largest producers of tobacco products. We offer you a supportive work environment, state-of-the-art resources, a competitive salary, and complete benefits including relocation assistance to historic Richmond, Virginia. For consideration, send your resume to: Barbara Wolf, Dept. #1287, PHILIP MORRIS U.S.A., P.O. Box 26603, Richmond, VA 23261. An Equal Opportunity/Affirmative Action Employer.

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ASSISTANT PROFESSOR ANIMAL PHYSIOLOGIST

Tenure track position for Fall 1987, contingent upon funding. Responsibilities include development of undergraduate course in experimental animal physiology as well as advanced course in her/his specialty. Other teaching duties would support a new program option in Biotechnology; preference given to candidates with expertise in cell culture and molecular biology. The successful applicant is expected to establish an active research program; seek external funding, and direct thesis research in our Biology (BS & MS) and Biochemistry (Ph.D.) programs. Interested individuals should forward their curriculum vitae and three letters of reference to: **Dr. Thaddeus Osmolski, Chairperson, Department of Biological Sciences, University of Lowell, One University Avenue, Lowell, MA 01854.**

The University of Lowell is an Equal Opportunity/Affirmative Action, Title IX, 504 Employer.

**University of
Lowell**



ECOGEN INC., an expanding biotechnology company located in the Philadelphia area and specializing in microbial pesticide development and biological control expects to have openings in early 1987 for Research Scientists (Ph.D. required) and/or Research Assistants. Areas of expertise and training desired:

Molecular Genetics: Bacterial genetics (especially with Bacillus and Pseudomonas), DNA cloning, transposon mutagenesis and construction of gene fusions.

Physiology/Biochemistry: Soil microbiology and/or rhizosphere ecology; protein separation techniques and peptide mapping.

Product Development: Fermentation technology; formulation and evaluation of biological and non-biological pesticides.

Interested candidates for any of these positions should submit a current resume, including the names, addresses, and telephone numbers of three references, to:

Personnel Director, Ecogen Inc., 2005 Cabot Boulevard West, Langhorne, PA 19047-1810.

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TOXICOLOGIST Senior Research Scientist

Rapidly expanding **Adria Laboratories**, a progressive R&D-oriented pharmaceutical company, has created a new career opportunity for an experienced Toxicologist.

This highly visible position will play a major role in Adria's aggressive drug development efforts by supervising preclinical safety evaluation studies. Key challenges will be to design protocols, conduct toxicity studies, evaluate data, and prepare reports for IND's, NDA's, and ANDA's.

A PhD in Pharmacology or Toxicology and a minimum of 3 years experience in toxicology within the pharmaceutical industry are required. Knowledge of various phases of toxicology research including acute, sub-chronic and chronic studies is preferred.

Adria provides a generous salary and benefits package, strong career advancement opportunities and an attractive work environment in our new Columbus, Ohio-based headquarters/laboratory facilities. Investigate our growth and your ability to grow with us by sending C.V. and salary level to: **Adria Laboratories, Staffing-JWK, P.O. Box 16529, Columbus, OH 43216.** An Equal Opportunity Employer M/F/H/V.



ADRIA LABORATORIES



Biochemist

Applied Biosystems, the leading producer of automated instrument/reagent systems for biotechnology research has an opening for a biochemist to work on product development in our nucleic acid extractor group. We are seeking an individual with three or more years of experience with RNA purification procedures, translation of messenger RNA and construction of C-DNA libraries. Familiarity with analytical instrumentation is highly desirable. The position requires a M.S. or Ph.D. in Biochemistry or Molecular Biology. In addition to growth opportunity, we offer a competitive compensation and benefit package. Send resume to . . .

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GASTROINTESTINAL BIOCHEMICAL PHARMACOLOGIST (Research Scientist)

Rorer, a worldwide ethical pharmaceutical company, has an immediate career opportunity in its Research Division located in suburban Philadelphia.

Our Gastrointestinal Biology Group is seeking an individual with a PhD in Pharmacology or Biochemistry who has a good publishing record and is interested in drug discovery research. Experience in receptor ligand interactions and cell isolation assays is essential. An understanding of GI Pharmacology/Physiology is preferred but not required.

We offer competitive salary, a full paid benefits package and a pleasant work environment. If your credentials meet our requirements and you are interested in exploring a career with us, submit a resume including salary requirements to: **Barbara F. Lippmann, Rorer Central Research, 800 Business Center Drive, Horsham, PA 19044.** Equal Opportunity Employer, M/F.



Rorer Central Research

THE ISOTOPE, STRUCTURE AND DYNAMICS GROUP (INC-4) at the Los Alamos National Laboratory seeks postdoctoral candidates for an immediate opening to study the biochemistry and physiology of metabolism in methylotrophic bacteria. The successful candidate will join in active research efforts in one of three areas 1) the biochemical mechanism of electron transport proteins 2) the regulation of the formaldehyde concentration and 3) the elucidation of carbon assimilation pathways in vivo using ¹³C-labeling and NMR spectroscopy. The group maintains well equipped fermentation and biochemistry laboratories as well as three modern NMR spectrometers. Candidates must have a Ph.D. in biochemistry, microbiology or related field. The candidate need not have experience in NMR spectroscopy. For more information on the research projects, please contact the principal investigators Dr. Clifford J. Unkefer or Dr. James A. Fee (505) 667-1001.

INC-4 maintains active research programs in inorganic, physical and biochemistry. The biochemistry program includes efforts in bioorganic, bioinorganic, biophysical and protein chemistry, bacterial toxins, as well as metabolism. Postdoctorals have the opportunity to interact with researchers in a broad spectrum of disciplines.

Postdoctoral appointments are for one year, renewable for a second year, and salaries range from \$31,260 to \$34,620 per year. Appointees receive employee benefits, including incoming travel and moving expenses.

TO FORMALLY APPLY, please send resume, employment application, three letters of reference, and graduate and undergraduate transcripts to: Carol M. Rich, Human Resources Development Division POSTDOC-AK, Los Alamos National Laboratory, Los Alamos, New Mexico 87545. Los Alamos is an Affirmative Action/Equal Opportunity Employer.

Goddard Space Flight Center

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Laboratory for Oceans
Laboratory for Astronomy and Solar Physics
Laboratory for Extraterrestrial Physics

Goddard Institute for Space Studies (New York)

2 Divisions

Space Data and Computing Division
Administration and Resources Management Division

2 Project Management Offices

Crustal Dynamics Project
Orbiting Satellites Project

Reporting to the Director, Goddard Space Flight Center, the position is in the Senior Executive Service; salary range is \$64,700-77,500, depending upon qualifications.

Candidates must have a Ph.D. or equivalent education or experience, and a research background in space and/or earth sciences including a substantial record of publications and/or significant responsibility for guidance of the scientific content of major programs in the space and/or earth sciences. Candidates must have demonstrated an ability to provide interdisciplinary program leadership, and to direct and participate in programs and projects in a broad spectrum of theoretical and experimental research in the space and/or earth sciences. A familiarity with the content, objectives and purposes of NASA's scientific program is highly desirable.

A Standard Form 171, Application for Federal Employment (available at Federal Job Information Centers or from the address below), should be sent to **NASA/Goddard Space Flight Center, Attention: Ms. Arietta Love, Code 221, Greenbelt, Md. 20771**. Applications will be accepted through March 31, 1987.

For further information and application forms, please call 301-286-8319 (Ms. Arietta Love)

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Saudi Arabia

The Research Centre for the **King Faisal Specialist Hospital and Research Centre** in Riyadh, Saudi Arabia, has a staff of about 150 and approximately 100,000 square feet of fully equipped research labs. It is currently seeking highly qualified Research Technicians with relevant experience in one or more of the areas listed below to assist in its mission of providing research in a broad range of diseases in collaboration with the clinical department of the 500-bed tertiary referral hospital. There may also be a few positions open for post doctoral scientists.

Biochemical Pharmacology
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Pediatric Metabolic Disorders and Genetics
Tumor and Radiation Biology
Nuclear Genetics
Oncogene Research
Genetic Toxicology and Carcinogenesis
Cell Biology and Hormone Receptors
Biochemical and Clinical Endocrinology
Clinical Physiology
Pharmacokinetics and Drug Metabolism
Immunology and Allergy
Virology
Parasitology
Connective Tissue Metabolism
Radiopharmaceuticals
Drug Development
Synthetic Organic Chemistry
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Salaries are attractive and potentially tax-free for those who qualify. The exceptional benefits include furnished lodging, free transportation, 30-day annual paid vacation, bonus pay and leave. Positions are for a 24-month commitment. The selected candidates will be employed by and have a contract with the Government of the Kingdom of Saudi Arabia.

Please send a letter of application with the names of three (3) references and a resume/CV to: **Dr. William L. Weirich, M.D., F.A.C.S., HCA International Company, Dept. S-0227, One Park Plaza, P.O. Box 550, Nashville, TN 37202-0550, USA with a copy to Dr. Abass H. Al Marzouky, Executive Director, Research Centre, King Faisal Specialist Hospital and Research Centre, P.O. Box 3354, Riyadh 11211, Saudi Arabia.** HCA is an Equal Opportunity Employer.



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POSITIONS OPEN

ENDOWED PROFESSORSHIP IN BIOCHEMICAL AND BIOPHYSICAL SCIENCES.

Applications are invited for the Cullen Chair in Biochemical and Biophysical Sciences. The establishment of this Chair is intended to attract an outstanding biochemist or molecular biologist who will enhance the research and teaching activities of the department and contribute to the campus academic community. The appointment will be part of a University commitment to expand life sciences research at the molecular level. Applicants should have a documented record of substantial research achievement, a strong ongoing research program and an active interest in teaching at the undergraduate, graduate, and postgraduate levels. Applications should be sent by 1 April 1987 to: **Dr. Joseph Eichberg, Chairperson, Cullen Chair Search Committee, Department of Biochemical and Biophysical Sciences, University of Houston, Houston, TX 77004. Telephone 713-749-2801. An Affirmative Action/Equal Opportunity Employer.**

FACULTY POSITIONS IN MOLECULAR/CELLULAR BIOLOGY UNIVERSITY OF ARIZONA

As part of a major expansion, the Department of Molecular and Cellular Biology at the University of Arizona expects to hire one or more new tenure-track faculty members this year. Preference will be given to applicants with research experience in molecular or genetic studies of developmental mechanisms, although outstanding candidates in other areas will be considered. We are particularly interested in junior candidates, although appointments at higher levels will be considered for outstanding individuals. Successful candidates will be expected to establish an excellent research program, as well as teach at the graduate and undergraduate levels. Send curriculum vitae, one- to two-page statement of research interests, and have three supporting letters sent to: **Dr. Danny Brower, Search Committee Head, Department of Molecular and Cellular Biology, BioSciences West Building Room 308, University of Arizona, Tucson, AZ 85721.** Applications will be considered from 15 March 1987, until the positions are filled.

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

FACULTY POSITIONS IN MOLECULAR VIROLOGY AND MOLECULAR IMMUNOLOGY

Two tenure-track positions at ASSISTANT/ASSOCIATE PROFESSOR levels in an expanding department that emphasizes research and graduate student training in virology, immunology, and pathogenesis. Prefer candidates with research expertise in (i) molecular biology of RNA viruses, retroviruses, AIDS, or oncogenes, or (ii) molecular immunology, immunogenetics, immunoregulation, and so forth. Candidates with expertise in other areas of virology or immunology will be considered. Successful candidates will develop an active research program, direct graduate students, and participate in teaching graduate and medical students. Competitive salary, generous seed funds, and technical support provided in a well-equipped department. Send curriculum vitae, statement of research interests, and names of three references to:

Dr. Dennis J. O'Callaghan
Professor and Head

Department of Microbiology and Immunology
Louisiana State University (LSU) Medical Center
P.O. Box 33932
Shreveport, LA 71130

LSU is an Affirmative Action/Equal Opportunity Employer.

WILDLIFE ECOLOGY AND RESOURCE MANAGEMENT FIELD DIRECTOR—KENYA THE SCHOOL FOR FIELD STUDIES (SFS)

Will have direct responsibility for all phases of year-round undergraduate program in wildlife field studies, overseeing three to four faculty and approximately 25 students. Requirements: Ph.D. or equivalent, demonstrated administrative/management abilities, African experience with preferred college level teaching/research in resource management, applied ecology. Nine months spent at site, two in Beverly, MA. Salary \$24,000, plus travel/living expenses. Résumés to: **SFS, 376 Hale Street, Beverly, MA 01915. Equal Opportunity Employer.**

POSITIONS OPEN

GENETICIST. The Department of Biology, University of Central Arkansas, invites applications for a Ph.D. tenure-track position at the assistant professor level. The individual will teach both undergraduate and graduate genetics, and biology for non-science majors. Preferential consideration will be given to applicants whose professional background includes population genetics, evolutionary biology, and biometry. Candidates with an active or a proposed research program will also receive priority. Submit curriculum vitae, a brief description of teaching and research career goals, and three current letters of reference to: **Dr. Edmond Griffin, Chairman, Department of Biology, University of Central Arkansas, Conway, AR 72032.** The deadline for receipt of application is 1 April 1987. *An Equal Opportunity Employer.*

GENETICIST UNIVERSITY OF ILLINOIS

The School of Life Sciences, University of Illinois at Urbana-Champaign invites applications for an associate professor in molecular genetics. Full description ran 16 and 23 January 1987. Send résumé and names of three references to: **Professor J. Cronan, School of Life Sciences, University of Illinois, 393 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801.** To receive full consideration, applications should be received by 15 March 1987. *An Equal Opportunity/Affirmative Action Employer.*

HEMATOLOGIST/ONCOLOGIST

The Department of Pediatrics and Human Development at Michigan State University is seeking a Board Certified/eligible pediatric hematologist/oncologist. This individual will be a full-time member of the department, and will work directly with the pediatric hematology/oncology group, made up of two pediatric hematologists, a nurse practitioner, a child psychologist, a social worker, and parent volunteers. There is a close association with the genetic and cancer research program, as well as the immunology section of the department. Facilities are available for individual research, both clinical and laboratory.

Contact: **Michael L. Netzloff, M.D., Professor and Acting Chairman, Department of Pediatrics and Human Development, College of Human Medicine, Michigan State University, East Lansing, MI 48824-1317.**

Affirmative Action/Equal Opportunity Institution.

HYDROLOGIST, UNIVERSITY OF CALIFORNIA (UC) BERKELEY. The Departments of Plant and Soil Biology and Forestry and Resource management are recruiting a Soil and Wildland Hydrologist. Appointment level may be assistant, associate, or full professor, depending on qualifications and experience. The position is 50% research in the Agricultural Experiment Station and 25% teaching in each of the two departments. Expertise in soil physics and interest in wildland resource management are required. Teaching will include an undergraduate course in wildland watershed management and a graduate course in soil hydrology and/or watershed management. Qualifications include a Ph.D. degree in such fields as soil physics, unsaturated zone hydrology, or watershed management. Submit letter of application, curriculum vitae, summary of research and teaching objectives, and the names of three referees to: **Professor J. G. McColl, Chair, Search Committee, Soil and Wildland Hydrologist, 108 Hilgard Hall, University of California, Berkeley, CA 94720** by 1 May 1987. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

MICROBIOLOGIST

Veterinary biologics manufacturer has a position available for a microbiologist/virologist to develop new in vitro test methods and to perform virus testing in the Quality Control Department. The position requires an individual with an M.S. degree with experience. A B.S. degree with relevant research experience and demonstrated ability would be considered. Please send application and current résumé to:

**Personnel Manager
Beecham Laboratories
P.O. Box 221
White Hall, IL 62092**

Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

IMMUNOCHEMIST/IMMUNOLOGIST

For studies of cytochromes P-450, Laboratory of Molecular Carcinogenesis, National Cancer Institute, National Institutes of Health, Public Health Service. Position of Senior Staff Fellow to use immunological and immunochemical approaches, particularly monoclonal antibodies to study cytochrome P-450 immunochemistry, their multiplicity, structure and function, their role in the metabolism, activation, and detoxification of xenobiotic carcinogens, drugs, and endogenous compounds. Salary range: \$20,688 to \$41,358. Send curriculum vitae and three letters of reference to: **Dr. Harry V. Gelboin, Chief, Laboratory of Molecular Carcinogenesis, National Cancer Institute, National Institutes of Health, 9000 Rockville Pike, 37/3E24, Bethesda, MD 20892.** *An Equal Opportunity Employer.*

INVERTEBRATE ZOOLOGIST

The Department of Biology, Illinois Wesleyan University, invites applications for a tenure-track position at the ASSISTANT PROFESSOR level. Applicants should have the Ph.D. degree. The successful candidate must be qualified to teach courses in invertebrate zoology (including marine biology), and be able to participate in team-taught general biology courses for majors and human biology for non-majors. In addition, the candidate will be expected to conduct research and to guide undergraduate student research projects. Primary consideration will be given to teaching excellence. Women and minorities are particularly encouraged to apply. Send curriculum vitae and three letters of reference to: **Dr. Bruce B. Criley, Department of Biology, Illinois Wesleyan University, Bloomington, IL 61702.** *Illinois Wesleyan is an Equal Opportunity Employer.*

LABORATORY TECHNICIAN PHARMACIA-LA JOLLA

We are looking for a SENIOR LABORATORY TECHNICIAN to join us at our experimental medicine laboratory in La Jolla, California.

As Senior Laboratory Technician, you should enjoy working in a challenging environment as part of a team which includes several postdoctoral researchers, helping perform front-line research in our area of expertise, which is the application of microcirculatory techniques to the problem of inflammation and reperfusion injury.

You must be able to perform advanced surgical procedures in experiments with laboratory animals and possess a high degree of manual dexterity. It is preferable that you are experienced in biology, physiology, or experimental surgery.

If you are interested, please send your résumé to: **Karl E. Arfors, Director of Explorative Research, Pharmacia Experimental Medicine, 10901 North Torrey Pines Road, La Jolla, CA 92037.**

Equal Opportunity Employer M/F/H/V

MICROBIAL ECOLOGIST. Postdoctoral position for at least one year, available immediately. Biological control-oriented, interdisciplinary project involves isolation, identification and determination of the ecological role of microbial colonists of aquatic weeds. Experience in microbial ecology, bacteriology, mycology, or plant pathology. Send résumé, transcripts, and names, addresses and telephone numbers of at least three references to: **Dr. R. F. Harris, Department of Soil Science, University of Wisconsin, Madison, WI 53706.** *An Equal Opportunity Employer.*

THE COLLEGE OF STATEN ISLAND OF THE CITY UNIVERSITY OF NEW YORK NEUROSCIENCE FACULTY POSITION

The College of Staten Island invites applications for a full-time tenure-track position (beginning 1 September 1987) in molecular neuroscience. Candidates must be qualified to participate in the City University's Ph.D. program in biology. A notable record of research, publication, grant support, and dissertation supervision is required. Opportunity to assume a leadership position within the proposed Center for Developmental Neurosciences. Rank: Commensurate with experience and record of scholarship. Salary range: \$40,000 to \$68,000. Send curriculum vitae and names of three references by 30 March 1987 to: **Dr. Barry Bressler, Vice-President for Faculty and Instruction, The College of Staten Island/CUNY, 715 Ocean Terrace, Staten Island, NY 10301.** *Equal Opportunity/Affirmative Action Employer.*

Synergen Is Always Interested In Excellence

Synergen, a leading biotechnology company, in Boulder, Colorado, offers the opportunity to pursue scientific careers in a stimulating intellectual and physical environment. We seek recent Ph.D.s with postdoctoral experience and more senior people interested in becoming part of a rapidly expanding company. There are currently openings for the following scientists:

PROTEIN BIOCHEMIST to identify, purify, and characterize proteins with potential applications as human pharmaceuticals. The projects are likely to involve work on both natural and recombinant proteins.

BIOANALYTICAL CHEMIST must be familiar with a variety of assay techniques for proteins. Require Ph.D., 2-5 years' industrial experience in a production environment.

BIOCHEMIST/BIOCHEMICAL ENGINEER—PROTEIN PURIFICATION to scale up processes for recombinant proteins. Industrial experience preferred. Ph.D. or equivalent experience.

Synergen offers competitive salaries, generous benefits, and the financial stability required for future development. Please send a CV, bibliography, and references to:



Recruitment Director
1885 33rd Street
Boulder, CO 80301

IMMUNOLOGISTS

We are one of Japan's major pharmaceutical companies and have now expanded into ten overseas locations for the research and development of new pharmaceuticals. Our strong commitment to a directed basic research program in autoimmune disease has created several outstanding career opportunities at our Rockville, Maryland facility for Scientists in the following disciplines:

- **PhD.** Requires at least two years postdoctoral experience with murine models of autoimmune disease to investigate the role of T cells in disease activity.
- **BS.** Must have several years experience in tissue culture, animal handling, cytotoxic assays and general biochemical techniques.

Otsuka places a strong emphasis on publication and collaboration with the university scientific community. If you have the qualifications necessary to fill one of these openings and you are interested in professional growth in a stimulating research environment at the same time you receive a competitive salary and a comprehensive benefits package, you should forward a current CV plus the names of several references to: **Dr. Walter Newman, Chief Scientist, Immunology.**



Otsuka Pharmaceutical Co., Ltd.
Maryland Research Laboratories
P.O. Box 4165
Rockville, MD 20850

"Otsuka, people creating new products for better health worldwide."

An Equal Opportunity Employer

Showa University Research Institute for Biomedicine announces the establishment of a Department of Cellular Biochemistry. The Institute, which is non-profit, is seeking a highly motivated senior investigator with established leadership capabilities. This department which will occupy approximately 8,000 sq. feet of laboratory space will be comprised of five independent laboratory programs in the general area of cancer biology with particular emphasis being placed on the characterization of underlying mechanisms at the molecular genetic level. Investigations in this department will complement studies in the already established Departments of Virology and Molecular Genetics.

Showa University Research Institute is unique in its affiliation with a major Japanese medical university. The Institute is based on a new facility with excellent individual laboratory and office space and centralized services, including a biotechnology laboratory. Its central location within the rapidly growing Tampa Bay area is most attractive. Investigators are allowed complete freedom to pursue research goals and while generous program support is provided, scientists are expected to secure extramural funding. An internationally recognized group of scientists comprise the Scientific Advisory Board.

Institute professional staff hold academic ranks at the University of South Florida. A full range of predoctoral and post doctoral training programs involving the Institute, Showa University Medical School in Tokyo and the University of South Florida are ongoing as are collaborative relationships with Bay area hospitals and clinics.

Individuals interested in the position should send their curriculum vitae, a list of publications and the names of five references to: **Chairman, Search Committee, Showa University Research Institute for Biomedicine, 10900 Roosevelt Boulevard, St. Petersburg, Florida 33702.**

A not-for-profit organization/equal opportunity employer.

Applications Scientist Centrifugation

The Spinco Division of Beckman Instruments, a world leader in the development of bioanalytical instrument systems, is seeking a creative professional to join its Applications team. The successful candidate will be involved with the development and dissemination of new techniques associated with preparative and analytical ultracentrifugation.

A broad background in the practice and techniques of preparative and analytical ultracentrifugation is required. The ideal candidate will have a PhD in a life or physical sci-

ence discipline, 5 years' ultracentrifugation experience, strong written and verbal communication skills and a desire to develop and disseminate information relative to centrifugation applications.

We offer competitive salary, benefit and relocation packages. For confidential consideration, send your resume and salary history to: Fred Krueger, (JA), Beckman Instruments, Inc., 1050 Page Mill Road, Palo Alto, CA 94304. Applicants must have legal right to work in the United States. We are an equal opportunity employer.

BECKMAN

A SmithKline Beckman Company

POSITIONS OPEN

The Centers for Disease Control is seeking a **MEDICAL VIROLOGIST** with M.D. or equivalent degree to work with biosafety level 4 viruses (including lassa fever, ebola, marburg, congo crinean hemorrhagic fever and hantaan viruses) in a Maximum Containment Laboratory and under field conditions. Must have a minimum of 8 years of laboratory experience in virology including 4 years working with biosafety level 4 viruses including isolation and purification of viruses, as well as experience in designing and conducting experiments on disease pathogenesis in animals (including primates) under level 4 conditions. Must have 6 months to 1 year of clinical and epidemiologic experience with viral hemorrhagic fevers including therapy and study of pathophysiology of disease in humans. Must be willing to travel internationally in order to organize and conduct epidemic investigations, and to direct laboratory group on studies of diagnosis and pathogenesis of viral hemorrhagic fevers. Fluency in French is desirable for field work in Africa. Salary level \$38,727 to \$45,763. Interested applicants should submit curriculum vitae and names of three professional references to: **Louise Griggs, Personnel Management Specialist, Centers for Disease Control, 1600 Clifton Road, NE, Building 1, Room 1042, Atlanta, GA 30333.** *The Centers for Disease Control is an Equal Opportunity Employer.*

MOLECULAR GENETICIST—Psychiatric Genetics Program, Department of Psychiatry, Medical College of Virginia/Virginia Commonwealth University (MCV/VCU) is recruiting a full-time research scientist interested in applying molecular genetic techniques to neuropsychiatric diseases. This person will join an active research team with a strong emphasis on quantitative genetic methods, with several major psychiatric genetic field studies currently under way. Responsibilities will include supervision of linkage analyses using RFLP's and establishment of immortalized cell lines. The candidate will be strongly encouraged to establish his/her own research program in an area relevant to the molecular biology of neuropsychiatric disorders. Must have Ph.D. or equivalent and advanced research training in molecular genetics. This will be a tenure-track position. Send curriculum vitae and references to: **Dr. K. Kendler, Departments of Psychiatry and Human Genetics, MCV, Box 710, Richmond, VA 23298.** *MCV/VCU is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

MOLECULAR VIROLOGIST

The Department of Medical Microbiology and Immunology, The Ohio State University Medical Center, invites applications for a tenure-track faculty position at the rank of assistant professor. Applicants must have a strong background in molecular virology, emphasis on herpesviruses (Epstein-Barr virus in particular). Qualified applicants should arrange to have curriculum vitae and three letters of recommendation sent to: **Ronald Glaser, Ph.D., Professor and Chairman, Department of Medical Microbiology and Immunology, The Ohio State University, 333 West 10 Avenue, Columbus, OH 43210.** Deadline for completed applications is 31 March 1987. *The Ohio State University is an Equal Opportunity Employer.*

PHARMACOLOGIST/TOXICOLOGIST TENURE-TRACK APPOINTMENT

The College of Pharmacy at Washington State University invites application for an assistant professor effective fall, 1987. A Ph.D. degree in pharmacology/toxicology or related discipline is required; a professional degree in pharmacy and postdoctoral experience are preferred. Responsibilities include teaching pharmacology to professional students, active participation in our Pharmacology/Toxicology Graduate Program (currently consisting of 31 faculty and 32 graduate students) and development of an active research program. We offer the successful candidate outstanding research facilities, access to modern instrumentation, a competitive salary, opportunities for collaborative research, and the beauty of the Pacific Northwest. Send three letters of recommendation, curriculum vitae and a statement of research interests to: **Dr. Thomas R. LaHann, School of Pharmacy, Washington State University, Pullman, WA 99164-6510.** Review of applications will begin 15 April 1987 and continue until the position is filled.

Washington State University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

PEDIATRIC PATHOLOGIST

The Department of Pathology, Wayne State University School of Medicine, Detroit, Michigan and the Children's Hospital of Michigan, invite applications for a Pediatric Pathologist with a strong commitment to teaching and research. Candidates should be board certified or eligible, and must be licensed or licensable to practice in Michigan.

The Children's Hospital of Michigan is a 290-bed hospital and one of a consortium of institutions in the Detroit Medical Center. The hospital serves as the sole teaching arm for pediatrics and pediatric pathology. The Department of Laboratory Medicine of the Children's Hospital is a full-service, CAP-accredited laboratory, managed conjointly by a professional and technical staff. The Department performs over 425,000 determinations annually. The principal service responsibilities are necropsy and surgical pathology. The candidate selected will have a joint appointment in the Department of Pathology, Wayne State University School of Medicine and the Children's Hospital of Michigan. Interested applicants should send curriculum vitae, personal statement, and three letters of reference to: **Joseph Wiener, M.D., Chairman, Department of Pathology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201.**

An Equal Opportunity/Affirmative Action Employer.

PHARMACOLOGIST—ENZYMOLOGIST

For studies in cytochrome P-450, Laboratory of Molecular Carcinogenesis, National Cancer Institute, National Institutes of Health, Public Health Service. A senior staff fellow position is available for a scientist to study the enzymology and pharmacology of cytochromes P-450 in a laboratory currently using both monoclonal antibodies and molecular biology approaches to understand cytochrome P-450 multiplicity, structure, and function. Salary range: \$20,688 to \$41,358. Send curriculum vitae and three letters of reference to: **Dr. Harry V. Gelboin, Chief, Laboratory of Molecular Carcinogenesis, National Cancer Institute, National Institutes of Health, 9000 Rockville Pike, 37/3E24, Bethesda, MD 20892.** *An Equal Opportunity Employer.*

PHYSIOLOGIST, CARDIOVASCULAR, needed to fill a tenure-track assistant professorship. Teaching proficiency essential. Send enquiries and applications to: **D. F. Magee, Creighton University Medical School, Omaha, NE 68178.**

PHYSIOLOGIST, Ph.D., M.D.

Prior training and experience in electrophysiological techniques applied to epithelial transport. Junior faculty position starting 1 April 1987. Salary negotiable. Send résumé and names of three references to: **John P. Hayslett, M.D., Professor of Medicine, Department of Medicine, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.** *Affirmative Action/Equal Opportunity Employer.*

PHYSIOLOGY/PHARMACOLOGY

Applications are invited for the position of **DISCIPLINE HEAD** of physiology/pharmacology. The desirable candidate will have an earned doctorate appropriate to the discipline, previous teaching and research experience at the graduate/professional school level, and be eligible for senior faculty rank. Prior administrative experience preferred. The successful candidate will be prepared to provide academic leadership in teaching a variety of topics in medical physiology and/or pharmacology.

Send curriculum vitae and references to: **William J. Dyche, Ph.D., Associate Dean for Preclinical Affairs, University of Osteopathic Medicine and Health Sciences, 3200 Grand Avenue, Des Moines, IA 50312.** *The University is an Equal Opportunity Employer.*

POSTDOCTORAL FELLOW/ASSISTANT RESEARCH SCIENTIST position available currently for Ph.D. interested in developmental immunology/hematology. Opportunity to prepare and study the differentiation of cloned lines of thymocyte precursors and to apply molecular genetic techniques to the study of T-cell differentiation. Support at NIH stipend level plus supplementation according to relevant experience. Submit curriculum vitae plus three references to: **Dr. R. S. Basch, Department of Pathology, NYU Medical Center, 550 First Avenue, New York, NY 10016.**

POSITIONS OPEN

CHEVRON CHEMICAL COMPANY ORTHO AGRICULTURAL CHEMICALS DIVISION PLANT PATHOLOGIST

The Agricultural Chemicals Division of Chevron Chemical Company is seeking a Ph.D. plant pathologist for the fungicide screening and research program. The successful applicant will design and direct laboratory and greenhouse research programs to identify and evaluate the intrinsic antimicrobial activity of chemicals and biologicals for use in agriculture.

This position is in the Inventive Research Group located at Chevron's new agricultural research facilities in Richmond, CA. It offers an exceptional opportunity to establish your own program and become a member of a multidisciplinary team in a stimulating research environment.

Interested individuals should send their résumé to:

**Chevron Chemical Company
Mr. S. K. Fortune
Supervisor, Human Resources
P.O. Box 4010
Richmond, CA 94804-0010**
An Equal Opportunity Employer.

POSTDOCTORAL FELLOW RESEARCH ASSOCIATE POSITIONS DEPARTMENT OF PEDIATRICS AND MICROBIOLOGY UNIVERSITY OF SOUTHERN CALIFORNIA, CHILDREN'S HOSPITAL OF LOS ANGELES, CALIFORNIA

Several (3 to 5) positions immediately available for well-trained Ph.D., or equivalent experience, molecular biologists to study the structure and function of the putative antioncogene in retinoblastoma.

Experience in recombinant DNA technology and/or cell biology protein chemistry is essential.

Salary: \$20,000 to \$35,000 depending on experience. Please contact: **Dr. Yuen Kai Fung or Dr. William Benedict at:**

**P.O. Box 54700
Los Angeles, CA 90054-0700
Telephone 213-669-2595**

POSTDOCTORAL OR RESEARCH ASSOCIATE position available immediately for 2 to 3 years to participate in studies involving molecular cloning and expression of falciparum malaria genes. Should have some experience with biochemical techniques. Salary negotiable, depending on experience. Send curriculum vitae and three letters of reference to: **Dr. A. C. Vezza, Department of Microbiology, University of Alabama at Birmingham, Birmingham, AL 35294.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to examine mechanism of phorbol ester activation of specific oncogenes and/or the role of lipocortin in growth factor action. Experience in protein biochemistry or molecular biology is required. Send curriculum vitae, references, and prior publications to: **Dr. Andrew S. Kraft, University of Alabama Cancer Center, 513 THT, 1900 University Boulevard, Birmingham, AL 35223.**

POSTDOCTORAL POSITION

Available for Ph.D. or M.D. with prior training in biochemistry and/or molecular biology to participate in project on tumor metastasis. Salary and starting date negotiable. Apply to: **Dr. Bruce Zetter, Harvard Medical School, Children's Hospital, 300 Longwood Avenue, Boston, MA 02115.**

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



TOXICOLOGISTS

The State of California's Department of Health Services is recruiting TOXICOLOGISTS for immediate openings. Vacancies exist in Sacramento and Berkeley. The areas of involvement are environmental and occupational toxicology, with specific emphasis on quantitative risk assessment, carcinogenicity, and reproductive toxicity. The annual salary is \$46,152-\$55,824.

Employment with CDHS depends on successful completion of an oral civil service examination, which may be taken over the telephone. Applications are accepted on a continual basis; however, the deadline for the next examination is April 1, 1987.

Requirements: Possession of a doctoral degree in toxicology or a closely related field and three years postdoctoral experience, including consultation on and interpretation of toxicological findings relative to probable human health hazards.

Position Description: Generally, the toxicologist serves as a statewide expert on the toxicological properties of products and chemicals as they relate to human health problems; interprets experimental study results in terms of toxicological properties and hazards, including risk assessments for carcinogenicity and reproductive toxicity; evaluates, advises and consults on the adequacy of toxicological data submitted by other organizations; advises on precautionary labelling for hazardous chemicals and products; advises in cases of accidental exposure or poisoning; testifies as a witness in hearings and court procedures; and prepares reports and scientific papers for publication.

Application: Send curriculum vitae to:

California Department of Health Services
Office of Environmental Health Hazard Assessment
714 P Street, Room 476
Sacramento, CA 95814

For assistant or further information, contact Robin Shimizu at (916) 324-7572.

The California Department of Health Services is an equal opportunity employer.

The CORIELL INSTITUTE FOR MEDICAL RESEARCH

(CIMR) in Camden, New Jersey is expanding into a new facility in 1988 on a common campus with the Cooper Medical Center, a 550 bed, full-service hospital and the University of Medicine and Dentistry of New Jersey (UMDNJ). Faculty appointments at UMDNJ are available.

The Institute, while remaining an independent organization, will utilize its new facility, a 43,000 square foot laboratory building that will complement a one year old 42,735 square foot UMDNJ laboratory building and a 24,265 square foot UMDNJ administrative center.

Due to this expansion, CIMR, which conducts studies in

**HUMAN GENETICS, CARCINOGENESIS,
AGING, ENVIRONMENTAL MUTAGENESIS,
DIFFERENTIATION, INFECTIOUS DISEASES**

and houses the
**NIGMS HUMAN GENETIC MUTANT and
NIA AGING CELL REPOSITORIES**

is recruiting all levels of scientists, from post doctoral fellows through senior faculty with active research programs in such fields as

**MOLECULAR HUMAN GENETICS, CANCER,
NEUROBIOLOGY, DIFFERENTIATION**

Investigators with records of excellence in other areas are also invited to apply.

Funds for projects and laboratory relocation available
Limited endowment funds available

Qualified candidates may submit their curriculum vitae, a description of proposed research and the names of 3 references to Gerard J. McGarrity, President, CIMR, Copewood Street, Camden, NJ 08103.



**CORIELL
INSTITUTE**
FOR MEDICAL RESEARCH

Equal Opportunity in Employment is the policy of the Coriell Institute.

Abbott Laboratories. One of the nation's best-managed companies. A \$3.8 billion leader in health care products worldwide. The corporation recognized in the scientific community for having one of the sharpest, most advanced professional environments anywhere. Our Discovery Group now continues this tradition by spearheading new product developments in pharmacology through aggressive research.

IMMUNOSCIENCE RESEARCH

Ph.D. Pharmacologists

Continued expansion has created two positions for research pharmacologists to work as part of a multi-disciplinary team conducting research directed at discovering novel drugs to treat inflammatory and allergic diseases. These positions involve studying the effects of inflammatory and allergic mediators, and developing *in vivo* assays to evaluate agents designed to interfere selectively with inflammatory and allergic processes. Successful candidates will have a Ph.D. in Pharmacology or equivalent and several years of postdoctoral experience. **Job #1**

NEUROSCIENCE RESEARCH

BS/MS Biochemical Pharmacologists and Cell Biologists

Qualified candidates will have a BS or MS in a biological discipline and preferably experience in one or more of the following areas: radioreceptor assays, quantitation of neurotransmitters/peptides, measurement of intracellular second messengers, cell biological techniques. Some familiarity with neuroanatomy and experience with cell culture and computerized data analysis would be an asset. **Job #2**

BS/MS Behavioral Neuroscientists

Qualified researchers will have a BS or MS in experimental psychology or biology, experience in small animal surgery and behavioral assessment techniques. Familiarity with neuroanatomy and neurochemistry an asset. Must be interested in the study of basic brain mechanisms in the control and expression of behavior. **Job #3**

Abbott is located in an attractive suburban setting just 30 miles north of Chicago on the Lake Michigan shoreline. We offer an excellent salary and full benefits package that includes profit sharing and stock retirement plan. **For consideration, send your resume, indicating job number interested in, to: Patricia Handy/Corporate Placement, Dept. SM/2-27.** Abbott is an Affirmative Action Employer.

ABBOTT
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"HEALTH CARE WORLDWIDE" "

POSITIONS OPEN

POSTDOCTORAL POSITION IN MARINE AND ESTUARINE SCIENCES

The University of Maryland Center for Environmental and Estuarine Studies (UMCEES), Horn Point Environmental Laboratories, located on Chesapeake Bay, is seeking to fill a postdoctoral position in any one of a broad spectrum of disciplines. These include coastal geology; invertebrate behavior, development, ecology, and physiology; nutrient cycling and productivity of phytoplankton, zooplankton, and vascular plant communities; physical oceanography; and seafood technology. The position is available from 1 October 1987, for 1 year with possible renewal for a maximum of 2 years. Send résumé and three letters of reference by 30 April 1987 to: **Dr. W. Michael Kemp, Chairman, Postdoctoral Search Committee, Horn Point Environmental Laboratories, P.O. Box 775, Cambridge, MD 21613.** *The University of Maryland is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to work in the area of chemical carcinogenesis. Previous experience in this area, or in enzymology, organic chemistry or cell culture techniques desirable. Please send curriculum vitae and the names of three references to: **Dr. Trevor M. Penning, Department of Pharmacology/6084, University of Pennsylvania, School of Medicine, Philadelphia, PA 19014.**

SANDOZ LTD., a leading Swiss-based international company with a strong commitment to pharmaceutical research, is offering a **POSTDOCTORAL POSITION** in their newly created biotechnology department. The successful candidate will be an ambitious Ph.D. in molecular biology with interest in the regulation of eukaryotic transcription.

The position is available immediately for a period of two years.

Applications with curriculum vitae should be sent to:

SANDOZ

Sandoz Ltd., Personnel Department, Reference 7801
Attention: Mr. R. Zbinden, P.B.
CH-4002 Basle/Switzerland

POSTDOCTORAL POSITION IN INVERTEBRATE NEUROPHYSIOLOGY available after 1 April 1987. Join a project investigating how identified "command neurons" function in behaving animals (crustaceans), and how sensory input affects their function. In addition, we are initiating studies on the neurochemistry of selected "command neurons". Persons familiar with intracellular and dye-filling techniques preferred. Send curriculum vitae and two or three letters of reference to: **Dr. James L. Larimer, Department of Zoology, The University of Texas at Austin, Austin, TX 78712.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN CHEMICAL CARCINOGENESIS available for research on mechanism of tumor induction by nitrosamines. Emphasis on early events in carcinogenesis including carcinogen metabolism, DNA alkylation and oncogene activation. Send curriculum vitae and names of two references to: **Dr. Michael C. Archer, Department of Medical Biophysics, University of Toronto, Ontario Cancer Institute, 500 Sherbourne Street, Toronto, Ontario, Canada M4X 1K9.**

POSTDOCTORAL POSITION IN FETAL PHYSIOLOGY/ENDOCRINOLOGY

Available July 1987, position supported by USPHS-NIH training grant. Various aspects of the regulation of fetal cardiovascular—endocrine interactions, the regulation of fetal and placental growth and differentiation by growth factors and hormones, and the hormonal and neuroendocrine regulation of the onset of labor are under investigation. Studies may involve the use of in vitro and in vivo approaches as well as mathematical modeling.

Applicants should have a strong background in endocrinology, physiology, cell biology, or mathematics. Send curriculum vitae and the names of three references to: **Dr. Lawrence D. Longo, Division of Perinatal Biology, Department of Physiology, School of Medicine, Loma Linda University, Loma Linda, CA 92350.** *Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION available after 1 April 1987 to study DNA damage/repair and cellular stress responses in human tumor cells treated with anticancer drugs that alkylate and cross-link DNA. Salary range: \$17,000 to \$21,000. Send résumé, summary of research interests/experience and have three reference letters forwarded to: **Dr. J. Seidenfeld, The Cancer Center Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL/RESEARCH ASSOCIATE

Position available to study neuropeptide precursor processing enzymes. Investigations will elucidate the role of these processing enzymes in the control of peptide neurotransmitter and peptide hormone biosynthesis. Enzyme characterization and regulation studies will utilize methods in protein/peptide chemistry, cell culture, immunochemistry, and molecular biology. Ph.D. in neuroscience, biochemistry, or pharmacology is desired. Send curriculum vitae, description of research experience, and names of three references to: **Dr. Vivian Y. H. Hook, Department of Biochemistry, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814.**

POSTDOCTORAL RESEARCH ASSOCIATE and research assistant (B.S./M.S.) positions available for studies of mutant mice exhibiting erroneous copper metabolism. Strong background in biochemistry essential with training/experience in protein isolation, radioimmunoassay, cell culture desirable. Send curriculum vitae and names of three references to: **Dr. H. Rauch, Zoology Department, University of Massachusetts, Amherst, MA 01003.** Telephone 413-545-2656. *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION IN CELL AND MOLECULAR TOXICOLOGY. The Fellow will study the role of immune cells in chemically induced toxicity using classical as well as advanced techniques in cell biology and immunology such as application of the fluorescence activated cell sorter. Candidates should have laboratory or coursework experience in tissue culture, immune cell function and xenobiotic metabolism. This is an excellent opportunity for a developing scientist to train in the burgeoning field of molecular toxicology. Send credentials to: **Professor Robert Snyder, Director, Joint Graduate Program in Toxicology of Rutgers the State University of New Jersey and the University of Medicine and Dentistry of New Jersey/Robert Wood Johnson Medical School, Department of Pharmacology and Toxicology, Rutgers College of Pharmacy, Piscataway, NJ 08855-0789.**

POSTDOCTORAL RESEARCH ASSOCIATE/INSTRUCTOR position available to study the relationship of growth regulation of epithelial cells to carcinogenesis. Applicant should have experience with molecular biological and cell receptor techniques. Curriculum vitae and three references to: **Samuel M. Cohen, M.D., Ph.D., Pathology and Microbiology, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL/RESEARCH ASSOCIATE POSITIONS. (i) Molecular basis of human prostate cancer development and carcinoma metastasis; (ii) analysis of progression of the transformed phenotype in human melanoma cells; (iii) molecular basis of differentiation in normal and tumor cells. Experience in molecular biology and recombinant DNA technology. Send curriculum vitae and have three letters of reference sent to: **Dr. P. B. Fisher, Cancer Center/Institute of Cancer Research, Columbia University, College of Physicians and Surgeons, New York, NY 10032.** *Affirmative Action Employer.*

POSTDOCTORAL RESEARCH IN MOLECULAR BIOLOGY/GENETIC ENGINEERING—Two positions at Michigan Biotechnology Institute to study nucleic acid structure and function with a view to gene cloning and recombinant protein overproduction. Laboratory in new building with excellent facilities and technical support. Send résumé to: **Dr. Nikos Panayotatos, MBI, 3900 Collins Road, P.O. Box 27609, Lansing, MI 48909.** *MBI is an Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL RESEARCH APPOINTMENTS are occasionally available in the Department of Biochemistry, at Emory University School of Medicine, Atlanta, GA 30322. Appointments are normally made for 1 year, but with the possibility of renewals for a maximum of two more years. A description of the research interests of the faculty is available from the department upon request, and highly qualified persons are invited to apply directly to the faculty member with whom they wish to work. If no position is available with that faculty member, the application may be circulated to others in the department with similar research interests. Applications should include a résumé, a brief statement of research interests and goals, and the names and addresses of three references. *Emory University is an Equal Opportunity/Affirmative Action Employer.*

Applications are invited for **PROFESSOR AND CHAIRPERSON, Department of Entomology and Applied Ecology**, superior achievement in research and provide leadership in developing and implementing a Ph.D. program to augment a strong M.S. Research specialty is open but should complement the goals of the department. Salary and fringe benefits are competitive. The University of Delaware is a mid-sized, comprehensive land grant institution with convenient access to major museum. USDA and industrial research facilities. The position is available 1 July 1987. The search will continue until the position is filled. Send résumé and names, addresses, and telephone numbers of four references to: **L. E. Hurd, Department of Entomology and Applied Ecology, University of Delaware, Newark, DE 19717-1303.** *The University of Delaware is an Equal Opportunity/Affirmative Action Employer. Women and minorities are urged to apply.*

RESEARCH ASSOCIATE (M.S./Ph.D.) available immediately to study receptor synthesis, and membrane turnover at the neuromuscular synapse. Experience in electron microscopy required. Background in immunocytochemistry and/or hybridoma technology helpful. Send a résumé and names of three references to: **Dr. S. Bursztajn, Neurology Department, Baylor College of Medicine, Houston, TX 77030.**

NATIONAL INSTITUTE ON AGING NATIONAL INSTITUTES OF HEALTH Public Health Service

The Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, invites applications for a Staff Fellowship position to study molecular biological aspects of aging brain and human neuropathological disorders. The successful candidate will be expected to carry out research that will complement some of the following areas of investigation: (1) characterization of the molecular changes in the aging rat brain and in the postmortem human brain in relation to Alzheimer's disease; (2) examination of proto-oncogene and growth factor expression in the CNS and in specific neuronal populations; (3) examination of altered gene expression in a trisomic mouse model of Down's syndrome.

Applications are invited from individuals having a Ph.D., M.D., or combined degrees plus experience in either of the following: molecular approaches to gene expression, in situ hybridization or neuroanatomy. Salary range is \$17,000 to \$47,788 per annum commensurate with qualifications. Interested candidates should submit their Curriculum Vitae to **Stanley I. Rapoport, M.D., Chief, Laboratory of Neurosciences, National Institute on Aging, Building 10, Room 6C 103, 9000 Rockville Pike, National Institutes of Health, Bethesda, Maryland 20892.**

An Equal Opportunity Employer

THE MAX-PLANCK-GESELLSCHAFT

invites applications for the position of a

RESEARCH GROUP LEADER

from promising young scientists who have achieved a degree of international recognition in their field, preferably in

**Molecular Biology, Cell Biology, or
Developmental Biology.**

The successful applicant will be expected to conduct a vigorous, original and independent research programme at the

Friedrich-Miescher Laboratory in Tübingen.

The position is for 5 years, carries a salary of about 70,000 DM p.a. (C3 scale of the Bundes-Besoldungsgesetz) and is roughly equivalent to an Assistant Professorship (US) or University Lectureship (UK). There is no teaching commitment.

The group will have modern laboratory facilities, operating expenses, and funding for scientific and technical co-workers.

Applications, including a tabular curriculum vitae, list of publications, and a description of major scientific achievements and future research plans, should be submitted until

April 15, 1987,

to: **Max-Planck-Gesellschaft zur
Förderung der Wissenschaften e.V.
- Generalverwaltung -
Postfach 647
D-800 München 1.**

NATIONAL INSTITUTE ON AGING NATIONAL INSTITUTES OF HEALTH Public Health Service

The Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, invites applications for a Staff Fellowship position to study electrical properties of neuronal cell membranes during development in tissue culture. Research will involve: (1) growing mammalian neurons in culture; (2) examining action potential and membrane properties with intracellular microelectrodes; (3) performing voltage and current clamping to identify and characterize individual membrane currents; (4) using patch clamp recording techniques to characterize kinetics of individual ionic channels and analyze channel number. Experiments will be done in relation to morphological and neurochemical analyses. The position is that of a Staff Fellow, Senior Staff Fellow or Medical Staff Fellow, with a salary of \$17,000 to \$47,788 per annum commensurate with qualifications. Appointments vary in duration from 1 to 7 years. The position is located in Bethesda, Maryland, and is available immediately.

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

An Equal Opportunity Employer

President

MOUNT SINAI MEDICAL CENTER

The Board of Trustees of the Mount Sinai Medical Center invites applications and nominations for the position of President.

As the Chief Executive Officer of the Medical Center, the Mount Sinai Hospital and the Mount Sinai School of Medicine (CUNY), the President will be directly responsible to the Board of Trustees.

Nominees or candidates should have a strong record of accomplishment in academic health settings and be familiar with the broad mission of an institution dedicated to fostering comprehensive patient care, medical and graduate education, clinical and basic research, and public service programs. They should also have proven leadership and executive experience. Nominations or applications should be addressed to:

Dr. David A. Hamburg
Chairman, Search Committee for President

THE MOUNT SINAI MEDICAL CENTER

One Gustave L. Levy Place
New York, New York 10029

Att: **Mr. Milton H. Sisselman**
19 East 98th Street, 5A (Box 1251)

An Equal Opportunity Employer

Scientists

SR. SCIENTISTS

Beckman's Diagnostic Systems Group has immediate openings for Sr. Scientists in the areas of Immunochemistry and Special Chemistry Development.

Immunochemistry

You will perform synthesis of organic derivatives, work with immunoassays and participate in the development of new products. You should have an MS or PhD in Chemistry or Biochemistry, and over 2-4 years of industrial experience with an emphasis in organic synthesis, hapten-protein and protein-protein synthesis, and experience in the development of immunoassays.

Special Chemistry

You will design and conduct analyses to determine the properties of novel chromogenic and fluorogenic compounds, and participate in the development of new enzyme assay reagent and control products. You should have an MS or PhD in Analytical and/or biochemistry with over 2-4 years of industrial development or clinical research experience. Current knowledge of spectrophotometry, fluorometry, enzyme characterization and assay methodologies is required. PC experience highly desirable.

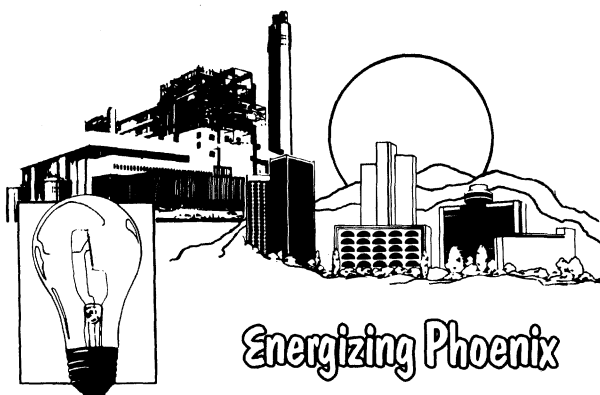
Send resume and salary history to: **Beckman Instruments, Inc., Professional Staffing, MH-2, 200 S. Kraemer Blvd., Brea, CA 92621.** An Affirmative Action Employer.

DIAGNOSTIC SYSTEMS GROUP

BECKMAN

A SmithKline Beckman Co.

THE PEOPLE PROJECT



Energizing Phoenix

Research & Development Director

As Arizona's major public utility, we've been keeping the spirit strong for over 75 years...a spirit reflected in our dedicated people. We've continued to meet the water/power challenges of our expanding metro area through state-of-the-art technology and innovative ideas.

We are currently seeking a Director to maintain overall responsibility for the activities of our R&D department in developing/coordinating projects relating to the supply, demand and quality of energy and water. Specific responsibilities involve developing potential long range, strategic research issues and developing/directing research programs that enhance SRP's capabilities to meet the new challenges of the future. The professional we seek must have a PhD in a technical field and at least 5 years research and development experience in the utility industry.

Salt River Project offers a competitive salary, extensive benefits and excellent potential for professional growth. In addition, we are located in the Valley of the Sun, where our refreshing outdoor lifestyle and abundant recreational activities match our year 'round climate. Please send your resume with salary history to: C. Sciarro, Salt River Project, Dept. S0227, P.O. Box 52025, Phoenix, AZ 85072-2025.



An Equal Opportunity Employer

Regional Medical Associate

Pharmaceutical Marketing

Currently we have an opening in the Ohio Valley Region for a Regional Medical Associate to combine both scientific expertise and marketing skills. The selected candidate will report directly to the Regional Vice President and will be headquartered in either Indianapolis, IN or Cleveland, OH. Responsibilities are to establish effective relationships within key medical institutions, providing scientific liaison and in-depth information essential to appropriate use of SK&F's products. Will also have training responsibility at the Representative, Medical Staff and Pharmacy levels. 35-40% travel.

Qualifications include PharmD or PhD in Pharmacology, Biochemistry, Microbiology or other Life Sciences. Must possess initiative, strong communication skills, and interest in Marketing.

In addition to an independent work environment where personal and professional growth are a way of life, we offer an outstanding compensation/benefits package geared to today's market. Please send resume and current earnings to:

Box 24
SCIENCE

We are an
Equal Opportunity
Employer,
M/F/H/V

SK&F
A SmithKline Beckman Company

Director Cell Biology and Immunology

Biogen Research Corporation, with laboratories in Cambridge, Massachusetts, is seeking a Ph.D. with extensive research expertise to lead their Cell Biology and Immunology group. This group is one of four within the R&D division and has responsibility for a) functional characterization of recombinant proteins in *in vitro* and *in vivo* systems, b) bioassay and immunoassay development, c) study of cell growth control, and d) exploratory research in immunology and inflammation.

The director of the group will be an integral member of the Research management team and also interface with Production, QA/QC and clinical groups in the development of recombinant proteins as pharmaceuticals.

Candidates should have a Ph.D., several years of professional experience in either academics or industry, and a substantial publication record.

Biogen offers an excellent compensation and benefits package. Please forward your CV to the **Manager of Human Resources, Biogen, Dept. DI-2/87, 14 Cambridge Center, Cambridge, MA 02142.** An equal opportunity employer.

BIOGEN

**LA TROBE UNIVERSITY
MELBOURNE — AUSTRALIA
CHAIR OF PSYCHOLOGY
(PSYCHOBIOLOGY)**

Applications are invited for appointment to the Chair of Psychology which will become vacant upon the retirement of Professor G. Singer at the end of 1987. It is anticipated that the appointee will take up the position early in 1988.

The appointment will be made in the field of psychobiology. Scientists with a record of research excellence in any specialisations within psychobiology consistent with the resources of the Department of Psychology are invited to apply. The new professor will be expected to provide leadership in research, postgraduate supervision, and teaching in psychobiology, and to contribute substantially to the continued development of the Department of Psychology.

The Department of Psychology has excellent facilities for psychobiological research. Full details of these facilities, as well as information on the Department generally, undergraduate and postgraduate programmes in psychology, and the research interests of academic staff members are available.

Enquiries should be addressed to Professor R. Over, Department of Psychology, La Trobe University, Bundoora, Victoria, 3083, Australia. Phone (613) 478 3122, extension 2949 or the Deputy Registrar, Ms Susan Hocking Phone (613) 478 3122, extension 2025.

Salary: \$A58,348 per annum.

Applications marked 'In Confidence' quoting reference number 150/46/68 including curriculum vitae and the names and addresses of three referees should be forwarded to the Deputy Registrar, La Trobe University, Bundoora, 3083, Victoria, Australia, by April 30, 1987.

Equal Opportunity is University Policy.

AUSTRALIA

CSIRO

**RESEARCH FELLOW
MOLECULAR BIOLOGIST**

A\$28107-A\$34681

**DIVISION OF TROPICAL ANIMAL SCIENCE
LONG POCKET LABORATORIES
INDOOROPILLY QLD**

GENERAL: The Division of Tropical Animal Science undertakes research activities on the improvement of animal health and production, particularly cattle production, in tropical Australia. It has programs on breeding and management, disease and parasite control and nutrition.

A major area of research being conducted at the Division's Long Pocket Laboratories is the development of experimental vaccines against diseases. The Division has groups undertaking immunological, biochemical and molecular biology studies of the antigens of disease agents. A number of molecular biologists are being appointed to assist these studies. One of these programs is aimed at alleviating the potentially fatal toxicosis, tick paralysis, caused by the Australian paralysis tick *Ixodes holocyclus* in domestic livestock and pets.

The tick paralysis program has reached the stage where the feasibility of vaccinating animals against the crude toxin has been demonstrated and antigen purification and characterisation is well advanced.

DUTIES: To undertake collaborative research work to produce the *Ixodes holocyclus* antigen molecule in whole or part by recombinant DNA methods.

QUALIFICATIONS: A PhD degree or equivalent qualifications in the field of recombinant DNA technology.

TENURE: A term of three years with Australian Government superannuation benefits available.

APPLICATIONS: Stating relevant personal particulars, including details of qualifications and experience, the names of at least two professional referees and quoting reference No M7800, should be directed to:

The Chief
CSIRO Division of Tropical Animal Science
Private Bag No 3
INDOOROPILLY QLD 4068
By March 27, 1987.

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

MilliGen:

Opportunities in Biotechnology Instrumentation and Chemistry

MilliGen is a newly formed division of Millipore focused on developing new instrumentation and chemistries for DNA and protein research. Specifically, the division is involved with synthesis and sequencing technology, and with complementary separations technology.

Rapid growth within the division and several recent acquisitions, have opened up key positions within MilliGen:

R&D

SR. PROTEIN/ PEPTIDE CHEMIST

Requires experience in protein purification and peptide sequencing, including current microsequencing technologies. Peptide synthesis experience with both Fmoc and t-Boc methods is desired.

MOLECULAR BIOLOGIST

Position requires experience in gene cloning, expression of bacteria and yeast, and in current technologies such as hybridization, blotting, DNA sequencing, and site-specific mutagenesis.

POLYMER CHEMIST

Experience in modification of polymers, synthesis of polymeric reagents and immobilization techniques is required.

MARKETING

BUSINESS UNIT MANAGER

Analysis and Purification Products-Requires product development experience with membrane filtration and/or Chromatography products. Marketing or business development experience is preferred.

DIRECTOR OF MARKETING

Instruments and Chemicals-Requires experience in all phases of

marketing both chemicals and instrumentation products to Biotech and Life Sciences markets.

PRODUCT MANAGERS

DNA and Peptide

Instrumentation-Requires product management experience with analytical instrumentation. DNA and/or Peptide experience is preferred.

SALES

APPLICATIONS SPECIALIST

Western Region-Requires experience selling analytical instrumentation to the biotechnology marketplace. A degree in one of the life sciences is essential.

If you are interested in a high-growth, high-visibility fast-moving opportunity — with the resources and support of the world leader in analysis and purification — please send your resume to Employment Manager, Millipore Corporation, 80 Ashby Road, Bedford, MA 01730.

MilliGen
Division of MILLIPORE

An Equal Opportunity Employer, M/F/H/V.

POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITIONS available now for biophysical studies of molecular mechanisms of cell surface receptor function. Experience in single-channel recording or electrophysiology is desirable for studies of conductance fluctuations and switching dynamics of reconstituted, genetically modified and synthesized transmembrane channels. Studies of the dynamics of receptor function, receptor cytoskeleton interactions and transmembrane signals using electro-optical fluorescence image acquisition and digital image analysis to measure receptor motion and map membrane potentials, intracellular calcium and pH in individual cells have generated needs in our biophysics laboratory for expertise in biochemistry and cell biology as well as in quantitative microscopy. Applicants please send curriculum vitae, publication list and references to: **Professor Watt W. Webb, Cornell University, Applied Physics, Clark Hall, Ithaca, NY 14853-2501. Cornell University is an Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE: Forty hours per week, 8:30 a.m. to 4:00 p.m., \$25,000 per year. Applicant will be responsible for the synthesis, structural elucidation, purification, and biological evaluation of complex organic molecules. Applicant shall work with radioisotopes and cell cultures using standard clinical bioassay procedures. Applicant shall also be responsible for pharmacological evaluations. Minimum 6 years of college, Master of Science in Organic Chemistry, 1 year of experience. Must know how to conduct modern spectroscopic techniques, including nuclear magnetic resonance, ultraviolet, infrared and the use of high-pressure liquid chromatography. If interested, please send résumé to:

ILLINOIS JOB SERVICE
910 South Michigan Avenue-Room 333
Chicago, IL 60605
Attention: Marie E. Ninneman
Reference # 6330-N
**AN EMPLOYER-PAID AD
UNIVERSITY POSITION**

RESEARCH ASSOCIATE ELECTRON MICROSCOPY

Position available immediately to use transmission and scanning electron microscopy in conjunction with fluorescent microscopy to study the morphology of acid secreting cells of mammalian and amphibian intestine. Experience in thin sectioning and high resolution electron and photomicrography required. Send curriculum vitae and names of three references to: **Dr. John F. White, Department of Physiology, Emory University, Atlanta, GA 30322. An Equal Opportunity Employer.**

RESEARCH ASSOCIATES

Somatogenetics International has immediate openings for research associates with Bachelors and Masters degrees in microbiology or biochemistry. The successful applicant will have experience in the techniques of molecular biology and/or biochemistry, and will be a self-motivated investigator capable of independent work. Please include all relevant experience in your résumé, and send in confidence to:

Somatogenetics International, Inc.
350 Interlocken Parkway
Suite 100
Broomfield, CO 80020

SOMATOGEN

RESEARCH ASSOCIATE (PLASMA PHYSICS)—Ph.D. in theoretical plasma plus 1 year of research experience. Background/research experience in statistical theory in plasma turbulence, light and plasma interaction theory, nonlinear dynamics, nonlinear Schrodinger equation. Experience in vector computer MFE and simulation. Perform research in plasma and fusion by both analytical and computational methods: (i) nonlinear MHD stabilities in fusion plasma; (ii) light beam self-focusing in laser accelerator; (iii) stochastic and chaotic behavior in nonlinear dynamics; and (iv) complexity and learning algorithm in multilayer and high order correlation neuronal network. \$27,000 per year. Permanent residence or U.S. citizenship required. Submit detailed résumé and copy of ad to: **Department of Employment and Training, 1123 North Eutaw Street, Room 201B, Baltimore, MD 21201. Refer to J.O. #6030087. Job Location: College Park, MD.**

POSITIONS OPEN

CHEVRON CHEMICAL COMPANY ORTHO AG CHEM DIVISION RESEARCH BIOCHEMIST

Applicants should have a Ph.D. in biochemistry, substantial knowledge and experience in enzymology with particular emphasis on the design of selective enzyme inhibitors. They will work closely with a group of synthesis chemists and collaborate in the selection of suitable xenobiotic targets. Research will involve investigation of enzyme/receptor activities, and identification of biochemical processes that will lead to the identification and development of novel pesticide compounds. A strong chemistry background is required, and knowledge of plant, fungal or insect systems is desirable.

Interested individuals should send their résumé to:

Chevron Chemical Company
Mr. S. K. Fortune
Supervisor, Human Resources
P.O. Box 4010
Richmond, CA 94804-0010
An Equal Opportunity Employer.

RESEARCH IMMUNOLOGIST

Research immunologist sought by Transplantation Unit Laboratories. Applicant should have Ph.D., M.D., or equivalent and considerable experience in experimental immunology as related to transplantation. Appointment as assistant professor at Harvard Medical School probably appropriate. Successful applicant will conduct independent research program and some teaching along with collaborative work as desired. Salary appropriate. Women and minorities encouraged to apply. Applications to: **Henry J. Winn, Ph.D., Transplantation Unit, Massachusetts General Hospital, Boston, MA 02114 by 13 March 1987.**

RESEARCH SCIENTIST

The New Jersey Department of Environmental Protection, Office of Science and Research has a variety of positions available within its Environmental Health and Environmental Research Programs. Professionals with graduate degree and relevant experience will be considered in the following disciplines: toxicology; epidemiology; chemical industrial process engineering; environmental: policy, journalism, education; risk communication; risk assessment; exposure assessment; genetic toxicology; analytical chemistry; environmental fate modeling; biostatistics; air/water pollution; physical chemistry/oceanography; technical writing; scientific research librarian. Positions offer competitive salary, compensatory with education and experience. Excellent benefit package. Submit résumé indicating field of interest and salary history to:

**New Jersey Department of Environmental Protection
Office of Science and Research
Henry Garie
CN-409
Trenton, NJ 08625**
An Affirmative Action/Equal Opportunity Employer.

SPECTROSCOPIST to be Director of the Mass Spectrometry Laboratory, School of Chemical Sciences, University of Illinois, Urbana-Champaign. Successful candidate will manage one of the nation's premier mass spectrometry facilities with a staff of four spectroscopists, engineers and technicians. Mass spectrometry is the major function of the laboratory and it is important that the applicant have a strong background in modern mass spectrometric techniques and instrumentation. Ph.D. degree in chemistry, physics, or electrical engineering, or equivalent combination of experience and education is required. Salary depends on experience; minimum \$40,000 per year. Position permanent with starting date 1 April 1987, although other starting dates could be negotiated. Applications should be made by 16 March 1987 to: **Professor J. Jonas, Director, School of Chemical Sciences, University of Illinois, 505 South Mathews Avenue, Urbana, IL 61801; Telephone: 217-333-0710; three letters of recommendation to be sent to the same address. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

RESEARCH SCIENTIST—Federal Service. The Letterman Army Institute of Research, San Francisco, CA, is seeking a research physiologist, Ph.D. (or M.D.) level, to participate as a member of a multidisciplinary team investigating the care of the combat casualty. Interest and experience in surgical, shock or wound healing research desirable. Starting salary \$31,619. Send résumé and publications list to: **C. Swift, SGRD-ULZ-RM, Letterman Army Institute of Research, Presidio of San Francisco, CA 94129. An Equal Opportunity Employer.**

DIABETES AND CARDIOVASCULAR DISEASE—The Lankenau Medical Research Center, jointly with the Department of Biochemistry and Biophysics and the Diabetes Center of the School of Medicine of the University of Pennsylvania, seeks a **research scientist** with an M.D. or a Ph.D. degree to conduct research in cellular metabolism with emphasis in diabetes and cardiovascular disease. The candidate should have an independent funded research program and must be willing to interact with staff scientists of both institutions. Modern laboratory facilities and supplemental funds for equipment, supplies and salaries would be provided by the Lankenau Medical Research Center. Participation in graduate and postgraduate education programs is possible. Applicants should submit their curriculum vitae and the names of three references to: **Michael S. Connor, Assistant Vice President—Personnel, The Lankenau Medical Research Center, Lancaster Avenue West of City Line, Philadelphia, PA 19151. Equal Opportunity Employer.**

SENIOR LEVEL FACULTY POSITION. Position available for an established, funded, investigator in the area of bone or connective tissue research. Academic rank and salary commensurate with background and experience. Individuals using molecular biologic, genetic, biochemical, or immunologic techniques to investigate function, development or diseases associated with bone or bone cells or other connective tissues or cells are encouraged to apply. Candidate is expected to maintain an active, independent research program, collaborate with other researchers in the area of oral diseases, and participate in team-teaching of professional and graduate students. Doctoral degree required. Submit curriculum vitae by 1 June 1987 to: **Wm. P. McArthur, Ph.D., College of Dentistry, Box J-405 JHMHC, University of Florida, Gainesville, FL 32610. Equal Opportunity/Affirmative Action Employer, the selection process will be conducted under the provision of Florida's "Government in the Sunshine" and Public Records Laws.**

UNIVERSITY OF MICHIGAN MEDICAL CENTER

The Department of Surgery is seeking candidates for several tenure-track openings and two fellow positions. Academic rank will be determined by the applicant's credentials. All positions require Board certification or eligibility, demonstrated skills as a clinical surgeon, prior related research, teaching and administrative experience, and interest in an academic career. Responsibilities include teaching at all levels, supervision of house staff, research and administration.

Emergency Services

Three Instructor/Assistant Professor level openings with specialties in surgery, internal medicine, and pediatrics.

General Surgery

Fellow position: Transplant Surgery—Two-year appointment at the Instructor/Assistant Professor level.

Fellow position: Burn Surgery—One-year appointment at the instructor level.

Assistant/Associate/Professor position in Burn, ABS certification required.

Two Assistant/Associate/Professor positions in oncology, ABS certification required.

Two Assistant/Associate/Professor positions in GI.

Urology

Instructor/Assistant Professor position.

Send curriculum vitae to:

Lazar J. Greenfield, M.D.
Professor and Chairman
University of Michigan Hospitals
Department of Surgery
2101D Taubman Center, Box 0346
1500 East Medical Center Drive
Ann Arbor, MI 48109

The University of Michigan is a Nondiscriminatory/Affirmative Action Employer.

MOLECULAR VIROLOGIST

At Cetus Corporation, we are committed to maintaining our leading role in the research and development of biotechnology-based health care products.

We are currently seeking a scientist to take part in the development of recombinant viruses for veterinary vaccine uses. The position provides the opportunity to investigate the molecular biology of non-human herpesviruses, with the ultimate goal of developing animal vaccine products.

Requirements for this position include experience in molecular virology and recombinant DNA technology. A background in herpesvirus research is preferred. Candidates may have either recently completed a Ph.D. program, or have one to three years of post-doctoral experience.

Please send your resume in confidence to:

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



Ph.D. HEMOGLOBIN CHEMIST

As a \$3.8 billion worldwide leader in the manufacture of sophisticated healthcare products, Abbott Laboratories has recently been cited by *Dun's Magazine* as one of the 5 best managed companies for 1986. This management strength plus aggressive research efforts creates an outstanding environment for the Ph.D. Hemoglobin Chemist we currently seek.

Playing an important role in our ongoing research, the selected Ph.D. candidate should possess a minimum of 3-5 years research experience in blood chemistry and function, including work in the area of purification and functional assessment of hemoglobin molecules.

Headquartered in an attractive suburban community at highways I-94 and Illinois 137, Abbott offers an excellent salary and benefits package including profit sharing and stock retirement plan. For confidential consideration, please send your resume with salary history to: **Stephanie Mondello/Corporate Placement, Dept. SM-2/27**. Abbott is an Affirmative Action Employer.

ABBOTT
ABBOTT PARK IL 60064
"HEALTH CARE WORLDWIDE"

Manager, Biological Resources

Stauffer Chemical Company, a subsidiary of Chesebrough-Pond's, Inc., has an opening for a Manager, Biological Resources at its Environmental Health Center in Farmington, CT. This key position involves responsibility for the operation of animal care facilities and the necropsy, histology and clinical chemistry laboratories in support of product safety testing.

Applicants should have a B.S. or M.S. in an appropriate discipline, or a D.V.M. and at least three years' experience in laboratory or animal facility management, plus at least eight years of related technical experience. Demonstrated interpersonal skills and the ability to work effectively with professionals trained in scientific and medical disciplines are essential.

Stauffer offers on-going growth opportunities, excellent salaries, and an attractive package of paid company benefits. The Stauffer Environmental Health Center is adjacent to The University of Connecticut Health Center and is located in one of the state's most attractive, semi-rural towns. To apply, please send your resume, a brief description of your experience, and salary requirements to: Mrs. P. Frutchey, STAUFFER CHEMICAL COMPANY, 400 Farmington Avenue, Farmington, CT 06032. We are an Equal Opportunity Employer M/F.

Stauffer Chemical Company
SUBSIDIARY OF Chesebrough-Pond's Inc.

SR. SCIENTIST NEUROPHARMACOLOGY

The Sterling Research Group, a division of Sterling Drug Inc., announces an opening for a senior level scientist in its Pharmacology Department.

The successful candidate should have a Ph.D. in Pharmacology with a minimum of 1-2 years postdoctoral experience in neuropharmacology, neurochemistry, neurobiology or related discipline. This position will involve working with a multidisciplinary group developing novel treatments for CNS-related diseases. Expertise in cellular and subcellular biochemical techniques for studying nerve function is desirable. Demonstrated oral and written communication skills is essential.

We offer an attractive salary and benefits package with the opportunity for professional growth. The Institute is located near Albany, New York, which is a center for summer and winter recreational activities.

Please send curriculum vitae including salary requirements in confidence to:

Ms. Randy E. Goldfischer
Employee Relations Administrator



**STERLING-WINTHROP
RESEARCH INSTITUTE**

Sterling Research Group
A Division Sterling Drug Inc.
Columbia Turnpike, Rensselaer, NY 12144
Equal Opportunity Employer M/F/H/V

POSITIONS OPEN

STAFF CHEMIST—Develop inorganic analytical methods, for the determination of trace elements in biological, waste and environmental samples, using inductively coupled plasma spectroscopy and other spectroscopic techniques. Train technicians and other personnel in the use of these instruments. Manage the inorganic laboratory facilities. Write technical operating procedures for analytical methods and be responsible for analytical quality control and quality assurance, and so forth. Must have a Ph.D. degree in chemistry. Must have 5 years of experience in job offered or 5 years of experience as inorganic chemist. Must have had at least 5 years' experience as a manager in a position involving the supervision of analysts measuring trace elements. Forty hours per week; salary \$30,000 per year. Applicants send résumé to:

William Reynolds
Tennessee Department of Employment Security
475 Oak Ridge Turnpike
P.O. Box 3514
Oak Ridge, TN 37831-3514
Attention: Department A.K.
JO #TN3400064

The Department of Chemistry, University of Toronto intends to make three tenure-stream appointments in experimental physical chemistry within the next few years. One tenure-stream position can be filled as early as 1 July 1987. In anticipation of the other appointments the Department also invites applicants for two NSERC-University Research Fellowships (URF) to begin 1 July 1988. Applicants should possess a strong academic background and an excellent research record in modern experimental physical chemistry. We would particularly welcome applicants whose research interests are in the biophysical area. The successful candidates for all three positions are required to have a Ph.D. and will be expected to conduct an active and highly innovative research programme and to teach at both the undergraduate and graduate level. URF holders must be Canadian citizens or permanent residents. Applications should be submitted by 15 May 1987. Applicants should provide a curriculum vitae and an outline of their proposed research, and should arrange to have three letters of recommendation sent on their behalf as soon as possible to:

Professor M. A. Winnik
Chairman, Search Committee
Department of Chemistry
University of Toronto
80 St. George Street
Toronto, Ontario M5S 1A1

CONFERENCES

THE ETIOLOGY OF PARKINSON'S DISEASE

A CONFERENCE on the etiology and hypotheses of the cause of Parkinson's disease will be presented in Rudolph Light Hall on the Vanderbilt University Campus on 18 to 20 June 1987.

For information, contact: Monica Lambert, Division of Continuing Medical Education, Vanderbilt University School of Medicine, Nashville, TN 37232, or telephone 615-322-4030.

EVOLUTIONARY MECHANISMS IN SEX DETERMINATION HYATT REGENCY, MEMPHIS, 4 TO 8 MAY 1987

Molecular Genetics of Sex Determination, Sex-specific DNA Probes, Diagnostic and Research Applications of Recombinant DNA Technology, Abnormal Sex Differentiation, Clinical Syndromes, Genetics and Agriculture. Sponsored by Spring Creek Ranch, National Foundation March of Dimes, The University of Tennessee, Memphis.

W. Beçak, K. Betteridge, C. Bishop, M. Bradley, J. Bull, P. Burgoyne, T. Cline, H. Cooke, L. Donoso, J. Epplen, M. Fellous, E. Goldberg, P. Goodfellow, K. Jones, N. Josso, G. Koo, A. Monaco, U. Müller, D. Nakamura, M. New, S. Ohno, M. Schmid, J. L. Simpson, U. Wiberg, U. Wolf, S. Wachtel.

Registration \$150; students \$75; after 1 April 1987 \$200; students \$100. Limited poster space available. For information: Conference Department, SCR—Center for Reproductive Biology, 380 South Collierville-Arlington Road, Collierville, TN 38017; Telephone: 901-853-7660. Hotel reservations, telephone 1-800-228-9000.

COURSES

NATO ADVANCED STUDY INSTITUTE TERRESTRIAL SPACE RADIATION AND ITS BIOLOGICAL EFFECTS 11 TO 25 OCTOBER 1987

A comprehensive series of lectures presenting an integrated intensive course on the near space radiation environment and its effects on man in space. Topics include: radiobiology, dosimetry and magnetospheric physics. Limited number of contributed papers will be considered for presentation. Partial support for travel and living expenses will be available.

Further information contact:

Dr. P. McCormack, M.D., Ph.D.
Division of Life Sciences (CODE EB)
NASA, Headquarters
Washington, DC 20546 U.S.A.
Telephone 202-453-1543
Deadline 15 April 1987

GRADUATE STUDIES

GRADUATE STUDIES: University of Nevada Graduate Training Program in Pharmacology (1987 to 1988 Academic Year) is accepting applications for predoctoral study and research in areas of neuropharmacology, autonomic and cardiovascular pharmacology (with emphasis on regulation of vascular and airway smooth muscle and cardiac muscle) and neuromuscular toxicology. This is a Ph.D. program open to highly qualified individuals with bachelors degree in the sciences. For more information contact: Dr. George Bierkamper, Director, Graduate Program, Department of Pharmacology, University of Nevada School of Medicine, Reno, NV 89557-0046. *Affirmative Action/Equal Opportunity Employment.*

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP JULY 1988—

Pathologist or other biomedical scientist (M.D., D.D.S., D.V.M., Ph.D.) for 1- or 2-year program at the Armed Forces Institute of Pathology beginning July 1988. Excellent research training and educational opportunity position; women and minorities encouraged. Send curriculum vitae and brief statement of interests and qualifications to Box 20, SCIENCE, by 1 September 1987.

POSTDOCTORAL FELLOWSHIPS

MEDICAL GENETICS—Postdoctoral fellowships for individuals with M.D. or Ph.D. degrees. The Kennedy Institute and the Division of Medical Genetics of the Department of Pediatrics and Medicine, The Johns Hopkins University are offering 2-year fellowships in medical genetics which meet the requirements for subspecialty Boards in Medical Genetics. Openings are available in the areas of clinical genetics, cytogenetics, biochemical genetics or a combination of the above. Applications are now being accepted for appointments beginning 1 July of 1987 and 1988. For further information contact: Dr. George H. Thomas, Ph.D., Room 406, The Kennedy Institute, 707 North Broadway, Baltimore, MD 21205. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIPS

The Lineberger Cancer Research Center of the University of North Carolina (UNC) at Chapel Hill will have openings in 1987 to 1988 for persons completing graduate studies to train with highly qualified investigators in molecularly oriented research in virology, chemical carcinogenesis, biochemical pharmacology, cell biology and immunology. Training includes areas such as regulation of gene expression, DNA replication, mutagenesis, molecular enzymology, control of cellular proliferation, growth factors, immunogenetics, protein phosphorylation, DNA and RNA viruses, and combined programs utilizing a broad range of contemporary technology. Unique resources and core facilities housed in the Lineberger Center and strong interdisciplinary orientation enhance training. Candidates must be U.S. citizens or permanent residents. Write for brochure and application sending brief statement of interests to: Director, Cancer Research Center, Lineberger Cancer Research Center 237H, Chapel Hill, NC 27514. *UNC's Cancer Research Center is an Affirmative Action/Equal Opportunity Employer.*

FELLOWSHIPS

FELLOWSHIP IN CANCER EPIDEMIOLOGY

The Preventive Medicine Institute/Strang Clinic, a cancer research institute, seeks a postdoctoral fellow to participate in ongoing studies in colon cancer using clinical and biochemical databases. Possible joint appointment with Memorial Sloan-Kettering Cancer Center or Cold Spring Harbor Laboratories. Prefer M.D. with M.P.H. or Ph.D. in epidemiology, interest and experience in oncology. Demonstrated ability to conduct research is required.

Send curriculum vitae and bibliography to:

Director
The Preventive Medicine Institute/
Strang Clinic
55 East 34 Street
New York, NY 10016

POSTDOCTORAL FELLOWSHIPS AVAILABLE

Fellowships are available for individuals interested in research on cancer-related topics in a broad, multidisciplinary environment whose main strengths are in molecular biology, viral oncology and immunology. The participating faculty includes:

R. Basch, C. Basilio, J. N. Buxbaum, R. B. Carroll, V. Defendi, B. Frangione, R. Dalla Favera, P. G. D'Eustachio, D. Meruelo, V. Nussenzweig, A. Pellicer, J. N. Phillips-Quagliata, D. B. Rifkin, G. M. Teebor, G. J. Thorbecke, J. T. Vilcek, E. B. Ziff, S. B. Zolla-Pazner.

Applicants should have a background in cell biology, immunology, biochemistry or molecular biology. Stipends are according to NIH guidelines; they can be supplemented subject to availability of funds. Only U.S. citizens or permanent residents are eligible.

Applications including curriculum vitae, a statement of research interests, and the name of three references should be sent to individual investigators or to: V. Defendi, Department of Pathology, New York University Medical Center, 550 First Avenue, New York, NY 10016.

Members of minority groups are strongly encouraged to apply.

POSTDOCTORAL FELLOWSHIPS IN INTER- DISCIPLINARY RESEARCH IN THE BIOMEDICAL AND BEHAVIORAL SCIENCES.

A training program has been funded to promote interdisciplinary research in mental retardation and developmental neurobiology. Fellows collaborate with research scientists on human/nonhuman research in neuroanatomy, neurochemistry, neuroendocrinology, psychopharmacology, neurology, genetics and behavioral psychology. Available 1 September 1987 for 1 to 2 years. Ph.D. or M.D. plus evidence of interdisciplinary research potential required. Send curriculum vitae, representative reprints and three references to: J. S. Kizer, M.D., 241 Biological Science Research Center, 220H, University of North Carolina, Chapel Hill, NC 27514-7220. Deadline: 15 April 1987.

POSTDOCTORAL AND PREDOCTORAL FELLOWSHIPS IN THE LABORATORY OF NEUROENDOCRINOLOGY, UCLA BRAIN RESEARCH INSTITUTE

Several NIH Training Grant positions at both levels are available prior to 1 July 1987. Training is offered by faculty from the Departments of Anatomy (J. deVellis, R. Gorski, J. Lu, P. Micevych, A. Taylor, E. Zimmermann), Pharmacology (R. George), Psychology (A. Arnold) or Neurosciences (all) in the general areas of sexual differentiation of the CNS, neuropeptides, molecular neurobiology, drugs of abuse, animal behavior and aging. For further information contact: Roger A. Gorski, Department of Anatomy, UCLA School of Medicine, Los Angeles, CA 90024. Telephone: 213-825-2123.

POSTDOCTORAL FELLOWSHIP

Available immediately for analysis of polyamine dependence in *E. coli*. Detailed genetic and physiological approaches to determine what functions are sensitive to very low polyamine levels. Send curriculum vitae with names of references to: Brooks Low, Radiobiology Laboratories, Yale Medical School, 333 Cedar Street, New Haven, CT 06510.

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From our patenting of the ELISA technology, to our breakthrough in the isolation of HTLV-III and the demonstration of its etiologic role in AIDS, the many scientific "firsts" pioneered by the research professionals of Organon Teknika amply illustrate our firm commitment to improving the quality of life through innovation in high technology health care.

We are OTC—Organon Teknika Corporation—the American subsidiary of AKZO Pharma, the pharmaceutical division of the 7.2 billion dollar and internationally known AKZO. Last year, Organon Teknika Corporation acquired two divisions of Warner Lambert—General Diagnostics and Nuclear Medical Laboratories—and the Bionetics Division of Litton. These acquisitions have enabled us to continue and expand upon our leadership role in the marketplace as a premier supplier of state-of-the-art diagnostic tests and dialysis/pheresis products.

—Thrombosis & Hemostasis R&D

Design and develop diagnostic test reagents, controls and dedicated photo-optical instrumentation to meet the needs of the coagulation diagnostic laboratory. Openings exist for:

Group Leader

PhD in Biochemistry or related field and 3+ years of experience including supervisory and preferably industrial background required.

Sr. Scientist/Scientist

MS/PhD with at least 2-3 years of professional experience, preferably in an industrial environment, with a strong background in analytical disciplines required.

—Viral & Hormonal Diseases R&D

Involved in the development of in-vitro diagnostics for numerous disease states including tumor markers. Openings exist for:

Group Leader/Tumor Markers

PhD in Biochemistry or related field plus 7-10 years experience in tumor markers required.

Associate Scientist

BS/MS with 2-5 years in Immunochemistry, preferably industrial required.

—Immunomicrobiology R&D

This department uses the most advanced test technology in its leading edge efforts in monoclonal antibody development. Openings exist for:

Sr. Scientist

PhD in Immunochemistry, Biochemistry or Microbiology plus 2-3 years of post-doctoral experience required.

Scientist

MS/BS in Biochemistry, Immunochemistry, Microbiology or related field with 2-5 years of professional experience required.

—Applied & External Research

Conduct feasibility studies related to the application of new technologies to diagnostic medicine, especially in the areas of microbiology, immunology, coagulation and clinical chemistry. Openings exist for:

Sr. Research Associate

PhD in Physics or Engineering plus 6-10 years of experience in opto-mechanical instrumentation design and development are required.

Research Associate

PhD in immunochemistry, immunology or biochemistry with 5-6 years of non-radiometric immunoassay research experience required.

Sr. Scientist/Scientist

PhD in Organic Chemistry with 1-4 years experience in synthesis of unique compounds required.

Sr. Scientist/Scientist

PhD in Analytical Chemistry with 1-4 years research experience in development/application of new analytical methods required.

—Clinical Services

Responsible for the design, management and reporting of data concerning clinical field trials of new in-vitro diagnostic products. Openings exist for:

Sr. Scientist

PhD/MS in Clinical Chemistry, Microbiology, Biochemistry, Physiology or related field and 7+ years of experience in clinical laboratory diagnostic products required.

Our corporate location is adjacent to Research Triangle Park, North Carolina, a growing, high technology and low unemployment area that is near three reputable universities and offers its inhabitants a nationally recognized quality of life. Wouldn't you like to explore the unique opportunities that emanate from being part of a start-up team? If so, then look to the future... it begins with us.

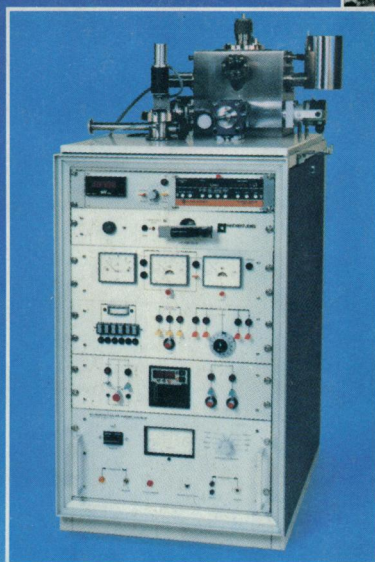
If your educational and professional qualifications have prepared you for outstanding achievements in a world class research environment, we encourage you to apply for Opportunities That Count. Please send your resume to: **Organon Teknika Corporation, P.O. Box 13867, Dept. DB, Research Triangle Park, North Carolina 27709.** No recruiters, agencies, or phone calls please.



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Reichert-Jung's Cryofract 190 is an incomparable freeze fracture etch instrument... fast, easy to use, and most importantly, it delivers the highest resolution replicas consistently and reliably.

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Using liquid Nitrogen or liquid Helium as the coolant, you can fracture specimens at temperatures down to 5 °K (-268 °C) in a clean ultra-high vacuum of 10^{-9} torr. Accurate temperature control allows user to deep etch with reproducibility. Water-cooled electron beam guns facilitate high-resolution replicas shadowed with either Pt/C or pure Ta.



The Cryofract 190 is sophisticated enough for advanced research, yet versatile enough for quick and easy routine work. By introducing specimens frost-free through an air lock, a freeze fracture run can be completed in 10 minutes. A versatile assortment of specimen holders and external control of the tilting stage permit rotary or unidirectional shadowing at any angle. Furthermore, gun electrodes can be reset externally so as many as 15 runs a day can be completed without venting

Micrograph at left shows complementary images of pits and particles from porcine renal microsomal membranes enriched in $\text{Na}^+ \text{K}^+$ ATP ase. Fractured at 5° K and shadowed with 0.6 nm Pt/C at 20°. Courtesy of H.P. Ting-Beall, F.M. Burgess and J.D. Robertson, Duke University.

the chamber. After venting, the chamber and operating ion pump are baked to 180 °C to insure a clean vacuum.

The Cryofract 190 is compact, quiet, self-cleaning and state-of-the-art. The Cryofract 190 is manufactured by Reichert-Jung

France under ANVAR License No. 7600427 — Inventor J. Escaig.

If you are looking for the freeze fracture etch instrument that is clearly the best in the world, you'll find the right stuff at Reichert-Jung. Call 1-800-828-1200 or write Reichert-Jung, Inc.

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