

are scarcely touched upon. If the goal is phylogenetic prediction, then more rigorous phylogenetic comparison is needed. A related and also disappointing aspect is that more morphologists and paleontologists were not included. As a result, many exciting and directly relevant ideas about lower vertebrate phylogeny were overlooked.

The book's interdisciplinary nature and timely reviews make it of interest to a wide audience including endocrinologists, comparative physiologists, vertebrate morphologists, and paleontologists. Most of the papers are well written and carefully edited. The text, drawings, and photographs are attractively produced, and the three-page subject index is a helpful addition.

WILLIAM E. BEMIS
*Department of Zoology,
University of Massachusetts,
Amherst, MA 01003*

Some Other Books of Interest

One Hundred Years of Psychological Research in America. G. Stanley Hall and the Johns Hopkins Tradition. STEWART H. HULSE and BERT F. GREEN, JR., Eds. Johns Hopkins University Press, Baltimore, 1986. xviii, 414 pp., illus. \$35. From a conference, Baltimore, Oct. 1983.

In 1883 G. Stanley Hall, as one of the editors of this volume puts it, "formalized the beginning of the [psychological] research enterprise in this country by founding the first laboratory of psychology in America at Johns Hopkins." To commemorate the event the Department of Psychology at Johns Hopkins convened the conference of which this volume is the proceedings. The opening section of the volume is explicitly historical. In the first of its four chapters Mortimer Herbert Appley, one of Hall's most recent successors as president of Clark University, summarizes and offers some reflections on Hall's career. Philip J. Pauly, Alphonse Chapanis, and the editors then provide a history of psychology at Johns Hopkins up to the present era. Part 2 of the volume consists of three biologically oriented essays: Philip Teitelbaum on the effects of lateral hypothalamic damage and their implications with respect to motivated behavior, Richard F. Thompson *et al.* on the localization of the memory-trace system in the mammalian brain, and Solomon H. Snyder and Pamela B. Sklar on the effects of caffeine. Part 3 is devoted to cognitive and social psychology: Wendell R. Garner on stimulus-organism interaction in perception, Roger Brown on linguistic relativity,

George A. Miller on ways in which the study of cognition has been "dismembered," and Doris R. Entwistle on a behavioral study of Caesarian delivery. The volume concludes with an essay by William R. Bevan on the current state of general experimental psychology.—K.L.

Assessment of Depression. NORMAN SARTORIUS and THOMAS A. BAN, Eds. Published on behalf of the World Health Organization by Springer-Verlag, New York, 1986. xviii, 376 pp. \$49.

The editors of this compendium report that it is estimated that 100 million people worldwide suffer from clinically recognizable depression and speculate that changes in the psychosocial environment and the increasing prevalence of chronic somatic diseases make it likely that the number will increase. They believe that the prospects for successful treatment of depression have improved but that the diversity of methodologies used to assess depression gives progress in that direction "a certain chaotic quality" and impedes multidisciplinary and multicentric research. They thus set out to bring together "authoritative descriptions of the most frequently used and recommended assessment instruments." The volume contains 31 chapters in all. The first eight report on the assessment of depression in particular geographic areas or groups of nations: German-speaking, French-speaking, Spanish-speaking, and Eastern European countries, Scandinavia, Japan, Italy, and Africa. These are followed by more detailed accounts of the various scales used (World Health Organization instruments, Hamilton's Depression Rating Scale, Beck's Depression Inventory, and some dozen others). The volume concludes with discussion of assessment of depression in the young and the elderly, the relative utility of ratings by nurses, physicians, and patients, and several other special issues.—K.L.

Kurt Gödel: Collected Works. Vol. 1, Publications 1929–1936. SOLOMON FEFERMAN, editor-in-chief. Clarendon (Oxford University Press), New York, 1986. xviii, 474 pp., illus., + plates. \$35.

This volume inaugurates what is intended to be a comprehensive edition of the works of "the most outstanding logician of the twentieth century." The purpose of the editors, Feferman writes, is to make Gödel's writings accessible to as wide an audience as possible. To that end they have provided introductory notes to individual papers or groups of papers and English translations to accompany the German texts. Volume 1

includes, in addition to more easily available publications, Gödel's doctoral dissertation, "On the Completeness of the Calculus of Logic" (University of Vienna, 1929). Introducing the volume are a general essay by Feferman on Gödel's life and work, photographs of Gödel, and a "Gödel chronology" compiled by John W. Dawson, Jr. Volume 2 will complete the published works (1937–1974), with subsequent volumes to present unpublished materials including lecture notes, correspondence, and extracts from Gödel's scientific notebooks. The edition is being prepared under the auspices of the Association for Symbolic Logic, with funding from the Sloan Foundation and the National Science Foundation.—K.L.

Reprints of Books Previously Reviewed

Beyond Mechanization. Work and Technology in a Postindustrial Age. Larry Hirschhorn. MIT Press, Cambridge, MA, 1986. Paper, \$6.95. *Reviewed* 230, 1031 (1985).

Dimensions of Darwinism. Themes and Counterthemes in Twentieth-Century Evolutionary Theory. Marjorie Grene, Ed. Cambridge University Press, New York, and Editions de la Maison des Sciences de l'Homme, Paris, 1986. Paper, \$14.95. *Reviewed* 223, 923 (1984).

The Global Climate. John T. Houghton, Ed. Cambridge University Press, New York, 1985. Paper, \$19.95. *Reviewed* 225, 1466 (1984).

Renormalization. An Introduction to Renormalization, the Renormalization Group, and the Operator-Product Expansion. John C. Collins. Cambridge University Press, New York, 1986. Paper, \$24.95. *Reviewed* 229, 44 (1985).

Books Received

The Evolutionary Ecology of Ant-Plant Mutualisms. Andrew J. Beattie. Cambridge University Press, New York, 1985. x, 182 pp., illus. \$24.95. Cambridge Studies in Ecology.

Examining Holistic Medicine. Douglas Stalker and Clark Glymour, Eds. Prometheus, Buffalo, NY, 1986. 406 pp., illus. \$20.95.

Experiments in Physical Sedimentology. J. R. L. Allen. Allen and Unwin, Winchester, MA, 1985. 63 pp., illus. Paper, \$9.95.

Ferrohydrodynamics. R. E. Rosenzweig. Cambridge University Press, New York, 1985. xvi, 344 pp., illus. \$69.50. Cambridge Monographs on Mechanics and Applied Mathematics.

First Steps toward Space. Frederick C. Durant III and George S. James, Eds. American Astronautical Society, San Diego, CA, 1985. xii, 307 pp., illus. \$45; paper, \$35. AAS History Series, vol. 6. From symposiums, Belgrade, Sept. 1967, and New York, 1968.

Growth of Crystals. Vol. 13. E. I. Givargizov, Ed. Consultants Bureau, New York, 1986. xii, 374 pp., illus. \$55. Translated from the Russian edition (Moscow, 1980) by V. I. Kisin. E. A. D. White, Transl. Ed.

A Guide to Practical Radiochemistry. An. N. Nesmeyanov, Ed. Mir, Moscow, 1985 (U.S. distributor, Imported Publications, Chicago). Two volumes. Vol. 1, 312 pp., illus. \$9. Vol. 2, 447 pp., illus. \$9. Translated with revisions from the Russian edition (Moscow, 1980) by G. Leib.

A Guide to the Vegetation of Britain and Europe. Oleg Polunin and Martin Walters. Oxford University Press, New York, 1985. x, 238 pp., illus., + plates. \$29.95.

(Continued on page 118)

BURN YOUR REFERENCE CARDS!

REF-11™

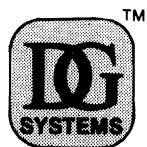
Computerizes your REFERENCES
and prepares your BIBLIOGRAPHIES

- ☐ Maintains a data base of references
- ☐ Searches for any combination of authors, years of publication, reference title (or any words in the title), and topics covered by the reference
- ☐ Formats bibliographies exactly as you want them
- ☐ Alphabetizes references
- ☐ Menu driven dialogue
- ☐ Abbreviates journal titles
- ☐ Compact storage format
- ☐ Runs on any video terminal
- ☐ 20 lines of comments for each reference

IBM PC/XT/AT, MS-DOS, CP/M 80 ... **\$195⁰⁰**

RT-11, TSX-Plus, RSX-11, P/OS **\$250⁰⁰**

VAX/VMS (native mode) **\$350⁰⁰**



ANY
MANUAL **\$15⁰⁰**

ANY
MANUAL
& DEMO **\$20⁰⁰**

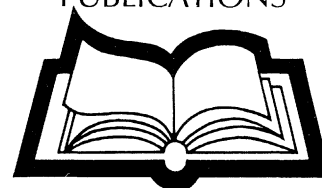
322 Prospect Ave., Hartford, CT 06106
(203) 247-8500

Connecticut residents add 7½% sales tax.

Circle No. 7 on Readers' Service Card

Free Book

AAAS CATALOG OF PUBLICATIONS



Get your copy of our 1986 publications catalog, and discover the many new books for sale at AAAS.

Books from *Science*, *Science 86*, and *Science Books & Films*. Books from our Programs Center and Annual Meetings.

Books on AIDS, arms control, astronomy, biotechnology, book and film reviews, chemistry, neuroscience, science poetry, sports science, torture, and many more topics.

Send your request to: AAAS Marketing, Dept. SS, 1333 H St., NW, 8th Floor, Washington, DC 20005.

NEW AAAS PUBLICATION

Scientists and Human Rights Present and Future Directions

Proceedings from a 1984 AAAS Annual Meeting Workshop

The second workshop report of the AAAS Clearinghouse on Science and Human Rights, a project of the AAAS Committee on Scientific Freedom and Responsibility, examines the activities of scientific societies in the human rights field. Workshop speakers also review mechanisms available within international inter-governmental organizations to address human rights violations of scientific and medical professionals.

Prepared by Kathie McCleskey, Senior Program Associate, AAAS Clearinghouse on Science and Human Rights.

\$3.00, paperbound, 70 pp.

Order from AAAS Sales Department, 1333 H St., NW, Washington, DC 20005. Please add \$1.50 postage and handling per order. Make checks payable to AAAS.

SCIENCE

Posters

The following posters of *Science* covers are available:

30 March 1979, Tropical flowering tree;

23 February 1983, Landsat photo of Detroit, Michigan;

29 July 1983, Cheetah;

2 December 1983, Snowshoe hare;

23 December 1983, Cathedral window/DNA molecule.

Combination of space covers in scroll format: 1 June 1979, 23 November 1979, 10 April 1981.

Price is \$5 each (**prepaid**).

Write to AAAS, Department POST, 1333 H Street, NW, Washington, D.C. 20005.

Secondary Ion Mass Spectrometry

Secondary Ion Mass Spectrometry (SIMS) uses a beam of low-energy ions to erode atoms from a sample surface into a vacuum where they are analyzed in a mass spectrometer. SIMS detects all the elements and isotopes with a sensitivity typically in the range of parts per million. Chemical information is also provided in the characteristic fragmentation patterns obtained in the mass spectra. The BOSS is a bolt-on SIMS system which is ideal for addition to an existing surface analysis instrument or a purpose-built vacuum system. Two versions of the BOSS are available depending on the choice of ion gun. Submicron Imaging SIMS is obtained using a scanning 10-keV microfocused gallium ion gun. This facility may be used to obtain SEM and chemical maps as well as surface mass spectra and concentration-depth profiles. Alternatively, the use of an argon ion gun or fast atom source is available for Static SIMS analysis. The BOSS is mounted on a 200-mm (OD) flange and comes complete with a 300-amu quadrupole mass spectrometer, ion gun, electron flood gun for charge neutralization, oxygen dosing and a secondary electron detector. The associated electronics are rack-mounted and output is either analog or under computer control. VG Scientific. Circle 526.

Fourier Transform Infrared Spectrometer

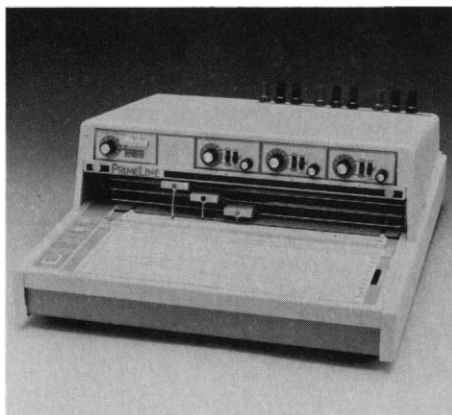
The Polaris is designed to bring FT-IR to laboratories which previously have had only the capacity for dispersive x-ray spectroscopy. No external computer is required. A novice can learn the operating procedures rapidly. The Polaris features push-button parameter selection, calibration, data collection, and plotting from an integral control panel. The internal software is menu-driven and one 68000 microprocessor controls all onboard operation. The Polaris has 0.5 cm^{-1} resolution and 0.01 cm^{-1} wavelength accuracy. The large sample compartment

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.

will accommodate a wide variety of sampling procedures. Large cube-cornered optics with beam-centering mirrors give absolute interferometer stability. The Polaris is fully expandable. Resolution may be varied and different detectors may be added. Mattson Instruments. Circle 530.

Flatbed Recorders

The PrimeLine R-0X series of flatbed laboratory recorders offers solid-state technology. R-0X PrimeLine recorders use 250-mm chart paper with all pens overlapping to write the full chart width. Each channel



(pen) will measure signals from 1 millivolt full scale up to 200 volts. Features include a calibrated 100 percent zero suppression switch and a variable attenuator for measuring signals between standard ranges. Pen speed is faster than 0.5 second full scale. Accuracy exceeds 0.25 percent full scale with repeatability better than 0.1 percent full scale. The R-0X series offers the user CMRR of 140 dB at 50/60 Hz. Additional standard features include integral quartz controlled chart drive with 14 switch-selected speeds from 1 cm/hour to 60 cm/min; remote controlled features include a superimposed event marker on each channel, simultaneous electric pen lift, chart start/stop, and external chart drive. Soltec Distribution. Circle 528.

Coagulation Analyzer

Model 110P, a fully automated coagulation instrument, operates on microsamples of plasma. This capability proportionately reduces the quantity of reagents and controls consumed, which results in savings for the user. Model 110P provides for the direct entry of PT and APTT concurrently, in any order and in any quantity without limiting efficiency of throughput. This eliminates the need to batch samples by test type. Samples

may be entered at any time regardless of the type of test in progress. Model 110P performs all routine coagulation tests including fibrinogens, thrombin times, and factor assays. Its ability to perform with reduced consumption of reagents and controls is the result of a submerged vertical optical detection system (SVO) that utilizes a near infrared light source. The vertical orientation of the optical system enables Model 110P to observe 360° of the clot during its formation. Additional reagent efficiency is attained with Model 110P by means of its pressurized reagent delivery system. This method for dispensing microvolumes of reagents eliminates conventional pumps. Bio/Data. Circle 527.

Energy Dispersive X-ray Fluorescence Analysis

Model EX-2040 combines a personal computer with a 40-kV x-ray tube and electronics to produce a versatile, economical x-ray fluorescence analysis system. Utilizing a plug-in board which converts the IBM PC into a full feature multichannel pulse height analyzer, the menu-driven user-friendly software permits analysis of every element from sodium to uranium. The computer keyboard allows the user to program different operating parameters for each of ten samples in the sample tray. A leaded glass viewing port allows samples to be observed during analysis. Data are displayed in real time on a monitor. Since the personal computer is not dedicated, it is available for other tasks when the system is not in use. The Nucleus. Circle 533.

Inserts for Shaking and Vortexing 96-Well Plates

Mechanized, unattended vortexing and shaking of 96-well plates for clinical, industrial, and research laboratories is now possible with inserts for the Vortex Genie 2 mixer. These inserts, which save labor and time, are useful for microtitration, tissue culture, serology, and other assays. They are among six interchangeable attachments that are used with the Genie 2 mixer for unattended shaking and vortexing. The single-tiered microwell plate is designed for mixing under 30 minutes; a two-tiered version of the insert facilitates long-term unattended mixing. Both inserts, which are made of high-density foam, are easily pressed into and removed from the plates without the use of tools from a special 6-inch thermoplastic platform head attached to the mixer. Scientific Industries. Circle 529.

(Continued from page 115)

Guilá Naquitz. Archaic Foraging and Early Agriculture in Oaxaca, Mexico. Kent V. Flannery, Ed. Academic Press, Orlando, FL, 1986. xx, 538 pp., illus. \$98.50. Studies in Archaeology.

The Handbook of Environmental Chemistry. O. Hutzinger, Ed. Vol. 3, part D. Anthropogenic Compounds. R. F. Addison *et al.* Springer-Verlag, New York, 1986. xii, 248 pp., illus. \$72.50.

Handbook of European Sphagna. R. E. Daniels and A. Eddy. Institute of Terrestrial Ecology, Monks Wood Experimental Station, Abbots Ripton, Huntingdon, U.K., 1985. 262 pp., illus. Paper, £10.50.

Handbook of Polycyclic Aromatic Hydrocarbons. Vol. 2, Emission Sources and Recent Progress in Analytical Chemistry. Alf Bjørseth and Thomas Ramdahl, Eds. Dekker, New York, 1985. xii, 416 pp., illus. \$95.

The Human Factor. Biomedicine in the Manned Space Program to 1980. John A. Pitts. National Aeronautics and Space Administration, Washington, DC, 1985. (available from the Superintendent of Documents, Washington, DC). xii, 391 pp., illus. \$23. NASA History Series. NASA SP-4213.

Human Growth. A Comprehensive Treatise. Vol. 1, Developmental Biology, Prenatal Growth. Frank Falkner and J. M. Tanner, Eds. 2nd ed. Plenum, New York, 1986. xxii, 496 pp., illus. \$69.50.

The Niger and Its Neighbors. Environmental History and Hydrobiology, Human Use and Health Hazards of the Major West African Rivers. A. T. Grove, Ed. Balkema, Accord, MA, 1985. xii, 331 pp., illus. \$95.

Nightfire Island. Later Holocene Lakemash Adaptation on the Western Edge of the Great Basin. C. Garth Sampson. With contributions by C. Melvin Aikens *et al.* Department of Anthropology, University of Oregon, Eugene, 1985. xxi, 553 pp., illus. Paper, \$15. University of Oregon Anthropological Papers, 33.

Numerical Methods in Fluid Dynamics. N. N. Yanenko and Yu. I. Shokin, Eds. Mir, Moscow, 1984. 336 pp., illus. Paper, \$8.95. Advances in Science and Technology in the USSR. Mathematics and Mechanics Series. Translated from the Russian by Vladimir Shokurov. Translation edited by R. N. Hainsworth.

The Origin of Eukaryotic Cells. Betsey Dexter Dyer and Robert Obar, Eds. Van Nostrand Reinhold, New York, 1986. xviii, 347 pp., illus. \$44.50. Benchmark Papers in Systematic and Evolutionary Biology. A Hutchinson Ross Publication.

Outer Space. New Challenges to Law and Policy. J. E. S. Fawcett. Clarendon (Oxford University Press), New York, 1984. vi, 169 pp., illus. \$29.95.

Oxford Surveys on Eukaryotic Genes. Vol. 1. Norman MacLean, Ed. Oxford University Press, New York, 1984. viii, 219 pp., illus. \$35.

Palaeoflora of Southern Africa. Prodrum of South African Megaflores, Devonian to Lower Cretaceous. John M. Anderson and Heidi M. Anderson. Published for the Botanical Research Institute by Balkema, Rotterdam, 1985. 423 pp., illus. \$55.

Papillomaviruses. Molecular and Clinical Aspects. Peter M. Howley and Thomas R. Broker, Eds. Liss, New York, 1986. xii, 575 pp., illus. \$94. UCLA Symposia on Molecular and Cellular Biology, new series, vol. 32. From a symposium, Steamboat Springs, CO, April 1985.

Pearls. Their Origin, Treatment and Identification. Jean Taburiaux. Chilton, Radnor, PA, 1985. 247 pp., illus. \$24.95. Translated from the French edition by David Ceriog-Hughes.

The Pentose Phosphate Pathway. Terry Wood. Academic Press, Orlando, FL, 1985. xii, 204 pp., illus. Paper, \$29.95.

Personal Computers and Data Communications. Dimitris N. Chorafas. Computer Science Press, Rockville, MD, 1986. xii, 340 pp., illus. Paper, \$19.95.

Personality Assessment via Questionnaires. Current Issues in Theory and Measurement. A. Angleitner and J. S. Wiggins, Eds. Springer-Verlag, New York, 1986. viii, 269 pp. \$34.50.

Perspective Design. Advanced Graphic and Mathematical Approaches. John H. Mauldin. Van Nostrand Reinhold, New York, 1985. xvi, 222 pp., illus. Paper, \$24.95.

Perspectives on Behavioral Medicine. Vol. 2, Neuroendocrine Control and Behavior. Redford B. Williams, Jr., Ed. Academic Press, Orlando, FL, 1985. xvi, 233 pp., illus. \$42; paper, \$24.95.

Space-Time Structure. Erwin Schrödinger. Cambridge University Press, New York, 1985. viii, 119 pp. Paper, \$12.95. Reprint, 1960 edition.

Spectroscopy of Biological Molecules. Alain J. P. Alix, Lucien Bernard, and Michel Manfait, Eds. Wiley-Interscience, New York, 1985. xxiv, 465 pp., illus. \$49.95. From a conference, Reims, France, 1985.

Personnel Placement

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

LINE CLASSIFIED ADVERTISING DEADLINES:

25 July issue (mailed 18 July): **4 July**
1 August issue (mailed 25 July): **11 July**
8 August issue (mailed 1 August): **18 July**
15 August issue (mailed 8 August): **25 July**

POSITIONS WANTED: 40¢ per word, plus \$4 for use of box number, per week. \$10 minimum, per week. Prepayment required. This rate is available only to individuals seeking jobs.

LINE DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$13.00 per millimeter, \$325 minimum, per week (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing address required for all other advertising.

Send copy for all **Positions Wanted** ads and **Line Display** ads less than 1/6 page in size (125 millimeters) to:

SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005
Telephone: 202-326-6555

Send copy for **Fractional Display** ads, 1/6 page and larger, and all **Marketplace** ads to:

Scherago Associates, Inc.
1515 Broadway
New York, NY 10036
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1333 H Street, NW
Washington, DC 20005

POSITIONS WANTED

Microbiologist. Recent Ph.D. (1985). Substantial experience in molecular biology techniques. Desires postdoctoral appointment in applied molecular biology (bacteriology, parasitology, virology, or vaccine development). Box 126, SCIENCE. X

Reproduction/Toxicology/Teratology/Anatomy. Doctorate experience; teaching gross anatomy, histology, embryology, and biology. Research: reproduction-toxicology and teratology. Seeks position in health/life sciences. Immediate relocation. Box 105, SCIENCE. X

Research Technician. B.S., plus 8 years of laboratory experience. Desires job in or near DeKalb, Illinois. Experienced in muscle physiology, histochemistry, EM, enzyme assays, and animal surgery. Some work exercise physiology. Box 115, SCIENCE. X

Researcher Biotechnology, M.S. with industrial experience. Desire challenging position in industry or academia. Laboratory experiences include molecular biology, recombinant DNA, strain development, fermentation, radioisotopes, and separation techniques: LC, HPLC, agarose/polyacrylamide electrophoresis, ultrafiltration. Designed, built, and operated supercritical extraction system. Box 121, SCIENCE. X

Toxicologist, Ph.D. Seeks challenging consulting, industrial, or academic position; 25 plus years of experience in research, program management, regulatory affairs, environmental litigation. Excellent communication skills; references available. Box 124, SCIENCE

7/4, 11, 18

POSITIONS WANTED

Biochemist, 1983. Experienced with protein/receptor biochemistry. Seeks research/teaching position in central Virginia. Box 125, SCIENCE. X

POSITIONS OPEN

ANATOMY ASSISTANT PROFESSOR

We are seeking an assistant professor, tenure-track, to join an outstanding Anatomy Department with strong research programs in DEVELOPMENTAL NEUROBIOLOGY, NEUROGENETICS, CELL BIOLOGY, and DEVELOPMENTAL BIOLOGY. Applicant should have demonstrated high potential regardless of area of specialization.

Send curriculum vitae and name, address, and telephone number of three referees to: **Marcus Jacobson, Chairman, Anatomy Department, University of Utah School of Medicine, Salt Lake City, Utah 84132.**

The deadline date for applications is 1 August 1986. Applications submitted after the deadline may be considered if a qualified candidate has not been identified.

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

ANATOMY AND CELL BIOLOGY POSITIONS

The Department of Anatomy and Cellular Biology of Tufts University Schools of Medicine, Dental Medicine and Veterinary Medicine, invites applications for tenure-track positions, preferably in the areas of cell biology or reproductive endocrinology. One of the positions will involve supervision of a light and electron microscope and computer imaging facility. Applicants should possess the Ph.D., M.D., or D.V.M. (or equivalent). The positions involve participation in the teaching of gross anatomy to medical, dental, or veterinary students. Applicants at the assistant professor level should have at least 2 years of postdoctoral research experience, show promise of developing an active and independent research program, and have some experience in the teaching of gross anatomy. Applicants at the associate or full professor level must have an active, funded research program, as well as considerable teaching experience. Major research areas in the department include cell and molecular biology, developmental biology, reproductive biology, and neuroendocrinology. Salary and rank are dependent upon qualifications and experience. Applicants are invited to submit curriculum vitae, names of at least three references, and a letter describing research and teaching interests to: **Dr. Bryan P. Toole, Department of Anatomy and Cellular Biology, Tufts University Schools of Medicine, Dental Medicine and Veterinary Medicine, 136 Harrison Avenue, Boston, Massachusetts 02111.**

Tufts University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR—Research-track medical school Department of Physiology. Candidate must have Ph.D. or M.D. degree and at least 4 years of postdoctoral experience. Competitive salary and comprehensive benefits. Unique requirements for the research area are experience in tissue and cellular oxygenation in fetus and newborn placental exchanges and mechanisms of metabolic and neurogenic control of brain and heart blood flow. Send curriculum vitae and names of three references to: **Dr. Robert E. Forster, Chairman, Department of Physiology, University of Pennsylvania, School of Medicine, Philadelphia, PA 19104-6085.** *An Equal Opportunity/Affirmative Action Employer.*

GROSS ANATOMY PROFESSOR

This is an opportunity for an experienced gross anatomist to join an excellent Anatomy Department in a very congenial location. The rank and salary are negotiable and competitive, the position may be full- or part-time, and persons at or close to retirement will receive favorable consideration. For further particulars, write or telephone: **801-581-6728, Marcus Jacobson, Chairman, Anatomy Department, University of Utah School of Medicine, Salt Lake City, Utah 84132.**

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

POSITIONS OPEN

AQUATIC BIOLOGIST/PROGRAMMER: Environmental firm in southwest Florida working in marshes, tidal freshwaters, estuaries, and bay systems seeks biologist at masters level with strong background in the statistical analysis of complex physical and biological data sets. Experience in SAS programming desirable. Salary commensurate with qualifications. Send résumé to: **Dr. Ralph Montgomery, Environmental Quality Laboratory, 1009 Tamiami Trail, Port Charlotte, FL 33953.**

ASSISTANT OR ASSOCIATE DIRECTOR OF CLINICAL MICROBIOLOGY

The Department of Microbiology and Immunology of the University of Rochester School of Medicine and Dentistry is conducting a search for an assistant or associate director of the Clinical Microbiology Laboratories. The clinical laboratories serve Strong Memorial Hospital, the 750-bed primary teaching hospital of the university, a 650-bed chronic care facility, and the Monroe County Department of Health—approximately 200,000 specimens are processed each year. The laboratory also sponsors an ABMM certified postdoctoral program in medical and public health microbiology. The successful candidate should have a strong commitment to both service and research and will be expected to develop a strong, independent research program. Specific areas of responsibility within the clinical laboratories, professorial rank in the department, and salary will depend on the candidate's training and expertise. Preference will be given to applicants who are ABMM certified or eligible. Applicants should submit curriculum vitae, a statement of research interests, and the names of three references by 30 September 1986 to: **Marilyn A. Menegus, Ph.D., Department of Microbiology and Immunology, Box 710, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642. Equal Opportunity Employer, M/F.**

ASSISTANT PROFESSOR

DEPARTMENTS OF PHYSIOLOGY AND BIOCHEMISTRY AND BIOPHYSICS, UNIVERSITY OF PENNSYLVANIA, SCHOOL OF MEDICINE. Applications are invited for a **tenure-track position.** The departments seek to expand research strengths in spectroscopic approaches to membrane and muscle contraction studies including electron spin resonance and optical chromophoric signals, such as time resolved anisotropy or fluorescence energy transfer. Applicant should have an active research program in the above areas and a track record for obtaining independent research support. Rank depends upon individual experience and qualifications. Send curriculum vitae giving specific research interests and names of three referees to: **Dr. Robert E. Forster, Chairman, Department of Physiology, University of Pennsylvania, School of Medicine, Philadelphia, PA 19104-6085. An Equal Opportunity/Affirmative Action Employer.**

ASSISTANT/ASSOCIATE PROFESSOR OF BIOCHEMISTRY: Two tenure-track positions are available in the Department of Biochemistry at the University of Mississippi Medical Center. Candidates combining an interest in enzymology and regulation of metabolism with recombinant DNA techniques are especially encouraged to apply. However, candidates will be considered in other areas. The department has ten full-time faculty members, is well equipped and well funded, and has a strong research program. Any interested person should send curriculum vitae and three letters of reference to: **Dr. Albert Wahba, Chairman, Department of Biochemistry, The University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505. Equal Opportunity Employer, M/F/H/V.**

ASSISTANT PROFESSOR. Applications are invited for a tenure-track position in the Department of Pharmacology at the State University of New York (SUNY) Health Science Center at Syracuse in the area of neurobiology and neuroendocrinology. The position is available 2 January 1987. Applications and two letters of recommendation should be received by 15 September 1986. Send to: **Dr. Mary Lou Vallano, Search Committee, Department of Pharmacology, SUNY/Health Science Center, Syracuse, New York 13210. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR IN VIROLOGY. The Department of Veterinary Science, University of Arizona, is seeking a highly qualified virologist with expertise in recombinant DNA techniques for a tenure-track position. The successful applicant is expected to develop a strong research program in an area of importance to bovine infectious diseases, such as bovine respiratory disease complex. A willingness to participate in interdisciplinary research projects and in graduate and undergraduate teaching is expected. The candidate must have a Ph.D. and postdoctoral experience. Position is available 1 January 1987, and applications will be accepted until 1 August 1986, or until position is filled. Interested persons should submit a complete curriculum vitae, including list of publications, and arrange to have copies of official transcripts and at least three letters of reference sent to: **Dr. Lynn A. Joens, Chairman of Search Committee, Department of Veterinary Science, University of Arizona, Tucson, AZ 85721.**

The University of Arizona is an Equal Opportunity Employer.

ASSISTANT PROFESSOR CARDIOVASCULAR PHARMACOLOGY

The Department of Pharmacology at The University of Texas Health Science Center, San Antonio, Texas, invites applications for a tenure-track faculty position from individuals with research experience in the neurobiology of cardiovascular regulation. This individual must have a Ph.D. and several years of postdoctoral training. The appointee will join a department with an active research program in cardiovascular regulation and will participate in the teaching of medical, dental, and graduate students. Send résumé, research interest, and names of three references to: **Dr. Vernon S. Bishop, Department of Pharmacology, University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, Texas 78284-7764. The University of Texas Health Science Center at San Antonio is an Affirmative Action/Equal Opportunity Employer.**

ASSISTANT PROFESSOR/TENURE-TRACK POSITION, Eppley Institute for Research in Cancer, University of Nebraska Medical Center (UNMC). We are currently seeking an individual with a research program in one of the following areas: carcinogenesis, membrane biology, cell/molecular biology, biochemical genetics, mutagenesis, DNA repair, or cell differentiation. The successful candidate will hold a joint appointment in a basic science department and will contribute to furthering graduate education on the UNMC campus. The Eppley Institute, which is committed to interdisciplinary research in various phases of the cancer problem, includes biochemists, biologists, chemists, nutritionists, pathologists, pharmacologists, virologists, and immunologists. Interested applicants should forward a complete curriculum vitae, three letters of recommendation, and a brief statement of their future research plans to: **Dr. Edward Bresnick, Director, Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center, Omaha, NE 68105.**

ASSISTANT PROFESSOR OF BIOCHEMISTRY 1 YEAR REPLACEMENT

Teaching assignments for the fall: Graduate course in biochemistry of proteins and nucleic acids and undergraduate biochemistry laboratory. Research facilities are available, Ph.D. required. Demonstrated evidence for excellence in research is desired. Send résumé to **Dr. P.A. Bettelheim, Chairman, Chemistry Department ADELPHI UNIVERSITY Garden City, NY 11530**

ASSISTANT RESEARCH SCIENTIST (PSYCHIATRY) Ph.D./M.D. with experience in biochemical research required. Experience in protein chemistry desirable. Candidate will plan and carry on research with **Dr. E. J. Simon** in neurochemistry/neuropharmacology with emphasis on opioid and other neuropeptide receptors. Salary commensurate with qualifications. Please send curriculum vitae and salary requirements to: **Joan Harmon, Personnel Department, New York University Medical Center, 317 East 34 Street, New York, NY 10016. An Affirmative Action/Equal Opportunity Employer, M/F.**

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR— BIOCHEMISTRY

The Department of Biochemistry at the University of Miami School of Medicine invites applications and nominations for a tenure-track position at the level of assistant or associate professor. Candidates must be experienced in molecular genetics. Responsibilities include development of a strong independent research program and participation in the teaching programs. Applicants should submit curriculum vitae, with a summary of present and future research interests, and request three letters of recommendation to be mailed directly to the University of Miami. Please ensure that all material is forwarded by 1 September 1986 to: **Dr. Ernest Y. C. Lee, Chairman of the Search Committee, Department of Biochemistry (R-629), University of Miami School of Medicine, P.O. Box 016129, Miami, Florida 33101. An Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR CORNELL UNIVERSITY DEPARTMENT OF PLANT PATHOLOGY

Applications are invited for a tenure-track faculty position available 1 January 1987. A Ph.D. is required and postdoctoral experience is desirable. The position requires research on ecology and control of soil-borne plant pathogens (70 percent) and extension work with diseases of turfgrass (30 percent). The appointee will be expected to blend new and conventional strategies and technology for the study and management of pathogens and host-parasite interactions in soil. An applicant should submit a letter of application with a statement of career goals, complete transcripts of college courses, and a résumé of biographical data and professional experience, and should arrange to have four letters of recommendation sent to: **Dr. W. A. Sinclair, Chairman of Search Committee, Department of Plant Pathology, Cornell University, Ithaca, NY 14853. Applications will be accepted until 1 September 1986.**

Cornell University is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR MEMBRANE TRANSPORT PROTEINS Department of Physiology and Biophysics The University of Iowa College of Medicine

Applications are invited for a tenure-track position from individuals with an established record of research on regulation of ion transport by specific proteins in membranes of excitable cells. Duties and responsibilities include teaching undergraduate and graduate level physiology courses, research on structure-function relationships of ion transport proteins, and development of a laboratory using rapid kinetic techniques to resolve molecular mechanisms of ligand gated and ion gated channels. Applicants must have the Ph.D. and/or M.D. degree and at least two years of postdoctoral experience. Please send curriculum vitae, description of teaching experience and research plans, and three letters of reference by 1 August 1986 to: **Dr. Robert E. Fellers, Chairman, Department of Physiology and Biophysics, The University of Iowa, Iowa City, Iowa 52242.**

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

ASSOCIATE PROFESSOR—50 percent position in Pediatric Hematology Section, F6515 Mott Children's Hospital, Box 0238, University of Michigan (UM), Ann Arbor, Michigan 48109-0238. Available 1 September 1986. Five years of postfellowship experience in granulocyte cell biology required. *UM is an Affirmative Action/Equal Opportunity Employer.*

BIOLOGY TEACHING POSITION: Henderson State University is seeking a person to teach physiology, cell biology, embryology, histology, and microbiology. Fall semester on main campus and spring semester on Little Rock campus. Ph.D. preferred. Send curriculum vitae, transcripts, and three letters of reference to: **Dr. P. R. Dorris, Chairman: Box H-7544, Arkadelphia, AR 71923; telephone: 501-246-5511, extension 3207.** Salary commensurate with training. *Henderson State University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA AT LOS ANGELES (UCLA). The Department of Atmospheric Sciences invites applications for a junior or senior level (ASSISTANT, ASSOCIATE, OR FULL PROFESSOR) ladder faculty appointment. Preference will be given to applicants with a proven record of research accomplishments in the areas of mesoscale dynamics, observational studies of mesoscale and large-scale atmospheric flows, and air-sea interactions. The position entails developing a strong research program with an emphasis on graduate guidance. The department also considers important superior performance in graduate and undergraduate teaching.

Applications should be sent before 1 September 1986 to:

George L. Siscoe
Chairman
Department of Atmospheric Sciences
405 Hilgard Avenue
Los Angeles, CA 90024

UCLA is an Affirmative Action/Equal Opportunity Employer.

CELL BIOLOGIST VIROLOGIST POSTDOCTORATE POSITION

We are seeking a postdoctoral-level scientist with expertise in cell biology, virology, and/or immunology to work on vaccine development and therapeutic strategies directed at the AIDS retrovirus, HIV. Our laboratory has a large and productive program in cell biology and molecular aspects of HIV, and is expanding its work on novel approaches in the study of HIV and cytokines. Support is assured for a minimum of 2 years. Interested candidates should forward curriculum vitae to: **Jerome E. Groopman, M.D., Chief/Division of Hematology/Oncology, New England Deaconess Hospital, Harvard Medical School, 110 Francis Street, Suite 4A, Boston, MA 02215. Equal Opportunity/Affirmative Action Employer.**

CHAIR, DEPARTMENT OF PHYSIOLOGY: The University of Wisconsin Medical School—Madison is searching for a new chairperson for the Department of Physiology. We seek a person who is able to give professional and administrative leadership of the highest quality to a distinguished department in programs of research, teaching, and service. Send replies with curriculum vitae to: **Dr. David B. Slautterback, Chairman, Physiology Search and Screen Committee, c/o M. Martin, 1205 Medical Sciences Center, 1300 University Avenue, Madison, WI 53706.** To guarantee full consideration, applications are due by 31 October 1986. However, applications will be accepted until an appointment is made. Screening of applications will begin on 18 August 1986. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

CHAIRPERSON, DEPARTMENT OF HUMAN ANATOMY. The School of Medicine, University of California, Davis, invites applications and nominations for the position of chairperson of the Department of Human Anatomy. The department has 11 tenure-track faculty members, is responsible for the teaching of gross, neuro-, and microscopic anatomy and aspects of cell biology in the medical curriculum, and offers graduate training in anatomy, cell biology, and related disciplines. Candidates must have a distinguished record of scholarship and professional achievement as evidenced by publications and grant awards, an interest in teaching, and demonstrated leadership and administrative abilities. The position requires a strong commitment to the development and administration of departmental research and academic programs, as well as to maintaining an independent, extramurally funded research program. Applicants should submit a letter of application, curriculum vitae, a summary of research goals, and the names of five references to: **Dr. John W. B. Hershey, Search Committee Chairperson, Department of Biological Chemistry, School of Medicine, University of California, Davis, CA 95616.** Applications must be received before 1 October 1986.

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

POSITIONS OPEN

ASSOCIATE PROFESSOR OF ENVIRONMENTAL HEALTH UNIVERSITY OF CINCINNATI MEDICAL CENTER

The Department of Environmental Health, University of Cincinnati Medical Center, is currently seeking applications for a faculty position in molecular toxicology. Applicants must have postdoctoral training in environmental health sciences with specialization in carcinogenesis. Experience with contemporary techniques in gene expression, as well as phospholipid biochemistry relevant to transmembrane signal transduction, is required. Applicants should also have experience with multistage models of cancer induction in both whole animals and cell culture and a record of success in obtaining independent research funding. Responsibilities include teaching in the areas of tumor promotion, carcinogenesis, and oncogenes. Applications, including at least three letters of reference, should be made to: **Dr. Roy E. Albert, Director, Department of Environmental Health, University of Cincinnati Medical Center, 3223 Eden Avenue, Cincinnati, Ohio 45267-0056, by 25 July.** *An Affirmative Action/Equal Opportunity Employer.*

BIOCHEMIST/POSTDOCTORAL RESEARCH SCIENTIST-NEUROLOGY. Study the developmental pathobiology of hereditary human neuromuscular disease. Isolate, purify, and characterize proteins from human muscle tissue to prepare monoclonal antibodies, which are highly specific tools to study function of normal and pathologic muscle. Isolate specific genetic probes to identify mutations causing many neuromuscular diseases which until the present time have been expressed only in mature muscle, not in fetal muscle. DNA probes will be used for antenatal testing and in order to determine necessary course of treatment. Applicant must possess Ph.D. in biochemistry and 3 years of experience in a research post involving the study of neuromuscular disease including 1 year of experience in use of hybridoma and recombinant DNA techniques, chromatography and electrophoresis, muscle cell culture and immunocytochemistry or 3 years in job offered. 40 hours per week, 9 a.m. to 5 p.m., \$19,500 per year. Résumés to: **NYS Job Service, JO number NY8026370, 175 Remsen Street, 2nd Floor, Brooklyn, NY 11201. D.O.T. number 041061026.**

Ph.D. BIOCHEMIST: With primary interest in collagen chemistry or related molecular biology. NIH-sponsored program seeks a highly qualified person at the assistant professor level. Current research involves basic and clinical aspects of collagen gene structure and regulation and acquired disorders of bone and connective tissue; additional topics of interest include growth factors and hormonal regulation of connective tissue synthesis. A faculty appointment in the Department of Biochemistry is available for the qualified applicant. Contact: **Jay R. Shapiro, M.D., Chairman, Department of Medicine, St. Vincent Hospital, Worcester, MA 01604.**

CHAIRPERSON OF THE DEPARTMENT OF RADIATION ONCOLOGY

AT THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL SCHOOL OF MEDICINE at the professor or associate professor level. The department is based in the 600-bed North Carolina Memorial Hospital in an excellent radiation treatment facility with a new radiation oncology building in progress. Responsibilities include clinical service, teaching, research, and departmental administration. Must be Board-certified by the American Board of Radiology as a radiation therapist and eligible for medical licensure in North Carolina. *Women and minorities are encouraged to identify themselves voluntarily. The University of North Carolina at Chapel Hill is an Affirmative Action/Equal Opportunity Employer.* Interested applicants should send curriculum vitae before 1 August 1986.

George F. Sheldon, M.D., Chairman
Search Committee for Department of Radiation
Oncology Chair
c/o Department of Surgery
136 Burnett-Womack 229H
University of North Carolina at Chapel Hill
Chapel Hill, NC 27514

POSITIONS OPEN

BIOCHEMIST—NATURAL PLANT PRODUCTS. Applicants are invited for an assistant professor, tenure-track position, Department of Plant Breeding and Biometry, Cornell. Responsibilities will include research, teaching, and graduate student advising. Research will focus on biochemical aspects of plant resistance to insects, diseases and environmental stress, or other biochemical factors related to breeding superior crops. Appointee will be expected to interact closely with plant breeders and to contribute to ongoing research in the department. Opportunities exist for constructive interaction with associates in biochemistry and biotechnology. Teaching responsibilities will include one graduate level course in biochemical concepts and techniques applicable to plant breeding. Qualifications must include a Ph.D. in biochemistry, or in plant physiology with emphasis in biochemistry. Additional training in plant sciences is desirable. Attractive opportunities exist to help carry biochemical research through to practical results in improved crops. Salary competitive; attractive fringe benefit package.

Interested persons should submit a letter of application, or résumé of biographical data and professional experience, and names and addresses of four referees. Send materials by 1 August 1986 to:

Dr. Robert L. Plaisted
Department of Plant Breeding and Biometry
Cornell University
Ithaca, New York 14853
Telephone: 607-255-1664

BIOCHEMISTRY FACULTY POSITION RICE UNIVERSITY

The Department of Biochemistry at Rice University invites applications for a faculty position at the level of **associate or full professor.** Candidates must have research expertise and training in **protein chemistry** and **x-ray crystallography.** Applicants must also have demonstrated their ability to obtain and sustain external grant funding. A complete x-ray crystallography laboratory is available and contains a Syntex P21 diffractometer, Nicolet LT-2 low temperature apparatus, rotating anode and precession camera, Evans and Sutherland PS350 graphics computer with black and white, color, and Raster terminals, and various microscopes. A fully equipped biochemistry laboratory including a coldroom is also available. Send résumé, outline of research program, and references to: **J. S. Olson, Chairman, Department of Biochemistry, Rice University, P.O. 1892, Houston, Texas 77251. Rice University is an Equal Opportunity Employer.**

The U.S. Army Chemical Research, Development and Engineering Center's Research Directorate, is seeking candidates interested in research in chemometrics and the application of mathematical/statistical pattern recognition techniques. Areas of interest include the detection of trace amounts of airborne contaminants, protection from and decontamination of such chemicals and the prediction of the physical and chemical properties and biological activity from the molecular structures. Two positions are available: (i) a **CHEMIST** with graduate training in chemometrics and the development of quantitative structure-activity relationships and (ii) a **MATHEMATICIAN** with graduate training in pattern recognition and classification. Both of these positions have a starting salary from \$31,619. Send applications to: **Commander, Chemical Research, Development, and Engineering Center, Attention: SMCCR-RSP-C, Aberdeen Proving Ground, Maryland 21010-5423; Telephone: 301-671-3518/3688. An Equal Opportunity/Affirmative Action Employer.**

CLINICAL NEUROPHYSIOLOGIST

Applicants sought for a tenure-track position at the level of **assistant or associate professor.** Candidates should have a Ph.D. in neurophysiology or a related discipline, and demonstrated experience in human evoked potential and EEG research. Basic neurophysiology expertise desirable. Send curriculum vitae and names of three references to: **John Straumanis, M.D., Professor and Chair, Department of Psychiatry, Louisiana State University Medical Center, P.O. Box 33932, Shreveport, LA 71130.**

Affirmative Action/Equal Opportunity Employer

ASSISTANT PROFESSOR
Human Genetics Program
University of Pittsburgh
School of Public Health

Applications are invited for a tenure-track position as an Assistant Professor of Human Genetics in the Human Genetics Program, Department of Biostatistics, Graduate School of Public Health, University of Pittsburgh. The Department is searching for a research cytogeneticist with a strong interest in cancer cytogenetics. Applicants should have doctoral level training in human genetics or a related area and some postdoctoral experience is desirable. In addition to supervising graduate students and the development of an independent research program, the successful candidate will have teaching responsibilities in the Human Genetics Program, and a joint appointment in the Pittsburgh Cancer Institute. Demonstrated research and teaching experience is essential. A curriculum vitae and the names of three references should be forwarded by August 31, 1986 to:

Dr. Robert E. Ferrell, Chairman, Search and Appointment Committee, Human Genetics Program, Department of Biostatistics, Graduate School of Public Health, University of Pittsburgh, 130 DeSoto Street, Pittsburgh, Pennsylvania 15261.

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

MOLECULAR
BIOLOGY/IMMUNOLOGY

The Molecular Biology Research group of The Upjohn Company has a position for a research associate with experience in the application of immunological techniques to molecular biology. The position involves working with many of the laboratories in Molecular Biology Research, to raise antibodies and develop immunological methods to solve problems in recombinant DNA projects. The Molecular Biology Research group is involved with collaborative projects with therapeutic and agricultural research groups throughout Upjohn. The position is an exceptional opportunity to interact with a variety of research programs at Upjohn.

This position requires a B.S. or M.S. in biology, microbiology, or related field. Applicants must have experience in animal immunizations, antibody production methods, and techniques such as immunoprecipitation, immunoblot methods, and immunofluorescence. Experience in some aspect of molecular biology would be a strong plus. This position requires an ability to work independently and to organize multiple projects.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a rich mix of cultural, educational and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for career growth, a competitive salary, commensurate with experience, a comprehensive benefits program and relocation assistance.

For confidential consideration, please call from outside of Michigan toll free 1/800/253-8600, ext. 3-6767, (inside Michigan call collect 616/323-6767) to request an employment application be sent to you immediately. Please refer to ad number 1780-A when calling.



An Equal Employment Opportunity Employer M/F

SR. RESEARCH
ASSOCIATE
LABORATORY
MANAGER

The Materials Science Center at CORNELL UNIVERSITY seeks a Manager for its new X-ray diffraction facility. Responsibilities include running experiments with x-ray equipment, maintaining x-ray equipment, training users and helping to design and run experiments at the CORNELL High Energy Synchrotron Source. Opportunities include the chance to play an active role in the building of a first class university facility and to work at the cutting edge of development of new x-ray technology. Experience with x-ray equipment, computers, and darkroom techniques required. Strong background in physics or materials science desirable.

Send curriculum vitae and references to: Professor William A. Bassett, Department of Geological Sciences, CORNELL UNIVERSITY, Ithaca, New York 14853.



Cornell University

An Affirmative Action /
 Equal Opportunity Employer

Neuro —
pharmacologist

A position exists in Pfizer Central Research as part of our expanding commitment to Neuroscience research. You will join a multidisciplinary research team working toward the discovery of novel psychotherapeutic agents.

You must have a PhD degree and 2-3 years of postdoctoral experience, with demonstrated strength in neurochemistry. A broad background in utilizing biochemical techniques for analyzing neural function, as well as hands-on experience with *in vitro* and *in vivo* receptor binding assays (quantitative autoradiography in particular), are required. In addition, it is highly desirable that you have a working knowledge of behavioral pharmacology, especially in relation to antipsychotic drugs.

This position offers an excellent opportunity for professional recognition and career growth. Superior facilities are available in our new research laboratories, and broad interactions with the external scientific community are actively encouraged. We offer a competitive compensation, benefit and relocation package and the opportunity to live in an attractive Connecticut shore community. Please send resume, including three professional references, and a brief description of your research interests to: Dr. Jerry K. Larson, Manager of Employment, Pfizer Central Research, Groton, CT 06340.



An equal opportunity employer

Growth Biology Project Leader

The Agricultural Research Division of American Cyanamid Company has an excellent career opportunity for a Growth Biology Research Project Leader at its Princeton, NJ location.

Individual will lead 3-5 scientists working in our basic animal growth and biotechnology program. The successful candidate will have a strong background in muscle and adipose biochemistry and physiology with particular emphasis on the use of in vitro techniques for the study of tissue metabolism. An ability to integrate the basic sciences with applied animal production is essential. A working knowledge of meat science is highly desirable. A Ph.D in a related discipline, a minimum of 5 years' independent research experience, a strong publication record and experience in coordinating the work of several researchers is essential.

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



American Cyanamid Company

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

HOFFMANN-LA ROCHE

R&D Section Heads

Are you a problem solver?
Investigate Roche Diagnostic Systems.

We are a rapidly expanding force in the field of *in vitro* diagnostics, and a major factor in the success of a world famous pharmaceutical company. We require highly motivated, experienced scientists to head research and development groups in the following areas:

- Infectious Diseases • Tumor Markers • Drug Abuse

Your qualifications must include a PhD in Biochemistry or Chemistry, at least 8-10 years industrial diagnostic experience, a demonstrated record of bringing projects from conception to marketplace, and familiarity with regulatory procedures such as 510 (k)s and PMAs. Must have ability to interact closely with Marketing, Sales, QC, Production and Technical Services, and large R&D teams.

To explore research programs and an environment that provides great challenges and appropriate rewards for independent, innovative problem solvers with supervisory skills, send your curriculum vitae to: Fran Newman



**HOFFMANN-
LA ROCHE INC.**
Nutley, NJ 07110

An equal opportunity employer

*Products that matter
from people who care.*

POSITIONS OPEN

CLINICAL ELECTROPHYSIOLOGIST

Position for a clinical electrophysiologist available at Maryland Institute for Emergency Medical Service Systems.

Responsibilities include both research and clinical EEG and evoked potentials for head trauma patients. Position includes a faculty appointment in the University of Maryland Medical School.

Ph.D. strongly preferred. Salary commensurate with experience. Please submit résumé to:

Brian D. Copeland
Employment Representative
UNIVERSITY OF MARYLAND AT BALTIMORE
737 West Lombard Street
Baltimore, Maryland 21201

An Equal Opportunity/Affirmative Action Employer

DEAN OF RESEARCH AND GRADUATE STUDIES

Montana College of Mineral Science and Technology seeks an enthusiastic person to direct and further develop its research efforts and graduate program. A doctorate and appropriate experience in research and management are required. Starting date negotiable. Applicants should submit a letter, résumé, and names of four references to:

Dr. Thomas Waring
Search Committee Chair
Dean of Research and Graduate Studies
Montana College of Mineral Science and Technology
Butte, Montana 59701

Montana Tech is an Affirmative Action/Equal Opportunity Employer.

DIAGNOSTICS DEVELOPMENT MANAGER—B.S. or M.S. in microbiology, chemistry, or related field; minimum 5 years of experience in practical immunochemistry required. Applied experience in composition, standardization, and formulation of immunodiagnostics preferred. Development begins with completed laboratory assay. Work for biotechnology firm emphasizing agriculture and animal health; associated with major universities. Send inquiry and résumé to: **Personnel Director, 620 Leshar Place, Lansing, MI 48912-1509.**

DIRECTOR, RADIOLOGICAL SCIENCES RESEARCH

Tenure-track faculty position, Department of Radiology, Indiana University School of Medicine.

Responsibilities: Will coordinate overall departmental research efforts and work with other departments to more fully utilize the resources at large academic medical center. Will be expected to pursue external funding from local, state, and federal agencies and to maintain liaison with industrial collaborators. Current research underway: magnetic resonance imaging, digital imaging, thrombolysis, monoclonal antibodies, cellular related contrast material, SPECT, CT and dual photon absorptiometric bone mineral evaluation, and ultrasonic diagnostic and therapeutic applications.

Requirements: Ph.D. with experience in imaging and radiologic physics. Established scientific investigator as indicated by refereed publications, successful research project managements, and funded grants. Salary commensurate with experience and qualifications. Send complete résumé, including names of four references, to: **R. W. Holden, M.D., Chairman, Search and Screen Committee, Department of Radiology, 926 West Michigan Street, Room X-98, Indianapolis, IN 46223. Indiana University is an Affirmative Action/Equal Opportunity Employer.**

DIRECTOR, SURGICAL ONCOLOGY: The Department of Surgery, University of Wisconsin Medical School is recruiting a director of the Surgical Oncology Program. Responsibilities include administrative oversight of the program, patient care, teaching of residents and medical students, and directing a laboratory research program. Requires Board-certification in a surgical specialty and 5 years of experience in directing a laboratory research program. Send curriculum vitae to: **Chairman, Department of Surgery, University of Wisconsin Medical School, G5/359, Clinical Science Center, 600 Highland Avenue, Madison, WI 53792. The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

DOCTORATES NEEDED from many fields to provide intensive laboratory instruction to surgeons. Training provided. Excellent teaching ability, congenial personality, and professional presence are necessary prerequisites. Not a sales position. Some travel is required. Teachers will be based at permanent instruction sites in New York City, West Palm Beach, Los Angeles area (Orange), or Chicago. Salary: \$40,000. Apply to: **Director, Midas Rex Institute, 3001 Race Street, Ft. Worth, TX 76111. Equal Opportunity/Affirmative Action Employer.**

ENVIRONMENTAL CHEMISTRY DEPARTMENT MANAGER, ENVIRONMENTAL SCIENCE AND ENGINEERING, INC. (ESE), a national environmental consulting firm has need for an experienced scientist to manage environmental chemistry department within Environmental Assessment and Toxicology Division. The department responsible for conducting and reporting studies on environmental fate of toxic contaminants; providing technical support of the risk assessment group in contaminant fate and transport assessment, and the design and management of fate testing. Position requires M.S. in geochemistry, physical chemistry, or environmental chemistry and 5 years of related experience, of which some portion of time should include supervisory and consulting experience. Interested applicants should send résumé with salary requirements to: **Environmental Science and Engineering, Inc., P.O. Box ESE, Department S76, Gainesville, FL 32602.**

FACULTY POSITION IN TOXICOLOGY

Full-time faculty position at the instructor level in the Physiology/Chemistry Department beginning September 1986. Responsibilities including teaching a first-level toxicology course and assignments in a biochemistry/clinical laboratory. Minimum educational requirement is a master's degree in an appropriate field. Research is strongly encouraged. Curriculum vitae, three letters of reference, copies of transcripts, and a statement of research interests should be sent to:

Dr. Howard T. Silverstein
Chairman

Physiology/Chemistry Department
Palmer College of Chiropractic
1000 Brady Street
Davenport, Iowa 52803

Equal Opportunity/Affirmative Action Employer

The Department of Veterinary Biomedical Sciences, University of Missouri-Columbia, is accepting applications for **THREE TENURE-TRACK FACULTY POSITIONS** at the assistant-associate professor level in (i) pharmacology, (ii) physiologic chemistry-cell biology, and (iii) histology-cell morphology. Qualifications include D.V.M. and/or Ph.D.; ability to develop a strong biomedical research program in area of interest; and capability to direct professional or graduate level courses in veterinary pharmacology, biochemistry, or microanatomy. Interests of this rapidly growing multidisciplinary department include circulation research encompassing molecular to systems analyses; endocrinology-reproductive biology; toxicology and neurosciences. One position is jointly sponsored by the Dalton Research Center and is oriented toward cardiovascular control mechanisms, whether at the molecular, cellular, or systemic level.

Applications should include curriculum vitae, names of three references, and a letter stating professional goals. Send correspondence to: **H. Richard Adams, Department of Veterinary Biomedical Sciences, College of Veterinary Medicine, University of Missouri-Columbia, MO 65211.**

PHYSICAL OCEANOGRAPHER, ENVIRONMENTAL SCIENCE AND ENGINEERING, INC. (ESE), a national environmental consulting firm currently has need for an experienced oceanographer or coastal engineer to manage oceanographic studies. Responsibilities to include the preparation of proposals, technical supervision, and management of coastal/oceanographic projects. Position requires M.S./Ph.D. in oceanography or coastal engineering and 5 years of experience; prior consulting experience preferred. Interested applicants should send résumé with salary requirements to: **Environmental Science and Engineering, Inc., P.O. Box ESE, Department S76, Gainesville, FL 32602.**

BIOPHARMACEUTIC SCIENTIST

The Upjohn Company, a worldwide manufacturer of pharmaceuticals, agricultural products, and healthcare products, is seeking an accomplished scientist to join our Biopharmaceutics and Bioanalytical Research Unit.

Responsibilities include the design, implementation, and interpretation of in-vitro and in-vivo biopharmaceutics/pharmacokinetics studies to support the development and marketing of new formulations, new routes of administration, and new combinations of drug products. Additionally, the scientist chosen for this highly visible position will assume the role of project coordinator across discipline, unit, or divisional lines to insure the continued efficiency, safety, understanding, and promotability of marketed or about to be marketed products. The position offers a potential for management opportunities.

The successful candidate will possess a Ph.D. degree in Biopharmaceutics/Pharmacokinetics and a minimum of two years research experience, a proven ability to communicate orally and in writing, and a demonstrated ability to plan and control a multi-faceted program. Experience or interest in drug delivery including percutaneous absorption and controlled-release oral systems is desirable.

We offer a stimulating and challenging work environment. Candidates may expect a salary and benefits package commensurate with their education and experience. For confidential consideration, please call toll free 1/800/253-8600, Ext. 3-6767, or inside Michigan collect 616/323-6767 to request an employment application be sent to you. Please refer to Ad Number 19440-G when calling.



A Century
of Caring
1886-1986

An Equal Employment Opportunity Employer M/F

Plant Cell Biologist

The Plant Genetics Department of Pfizer Central Research has an opening in Plant Cellular Biology. This department provides the basic research support for the corn, sorghum and soybean breeding programs of DeKalb-Pfizer Genetics.

You will be joining a multi-disciplinary team working on genetic improvement of these crop plants and will be responsible for the design and implementation of a research program to identify and transfer novel genetic traits into corn. In this position you will interface with whole-plant biologists and specialists in molecular biology and tissue culture.

You should have training in plant biology at the PhD level. Preference will be given to those candidates with postdoctoral experience.

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



An equal opportunity employer

POSITIONS OPEN

EUKARYOTIC MOLECULAR BIOLOGIST ASSISTANT/ASSOCIATE PROFESSOR IN DEPARTMENT OF BIOCHEMISTRY LOYOLA UNIVERSITY OF CHICAGO STRITCH SCHOOL OF MEDICINE

The Department of Biochemistry of the Stritch School of Medicine is seeking to fill a faculty position at the assistant/associate professor level in the area of eukaryotic molecular biology. The applicant will be expected to initiate a vigorous and innovative research program, participate in medical school and graduate school teaching, and interact collaboratively with other molecular/cellular biologists within the medical center. Preference will be given to applicants interested in the molecular biology of differentiation and cancer, or in the molecular biology of the nervous system. However, excellent applicants in other areas of eukaryotic molecular biology are invited. Start-up funds are available.

Send curriculum vitae, research interests and goals, recent reprints, and the names of three references to:

Dr. Richard Schultz, Chairman
Department of Biochemistry
Loyola University
Stritch School of Medicine
2160 South First Avenue
Maywood, IL 60153

Loyola University of Chicago is an Equal Opportunity/Affirmative Action Employer.

EVOLUTIONARY ECOLOGIST

The Department of Biological Sciences at Purdue University invites applications for one, possibly two, tenure-track faculty positions in the general area of evolutionary ecology. A strong background in theoretical and quantitative aspects of evolutionary biology (including such fields as animal behavior, coevolution, physiological ecology, or ecological genetics) is expected. Postdoctoral experience preferred. Start date negotiable. Send copies of curriculum vitae, research and teaching interests, reprints, and at least three letters of reference by 1 September to: **Peter M. Waser, Chairman, Search Committee, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907.**

An Equal Opportunity/Affirmative Action Employer

Several openings are available immediately for **JUNIOR AND SENIOR FACULTY POSITIONS** in the Department of Physiology and Biophysics. We seek applicants with a background and research interests which emphasize cellular and molecular basis of physiology. Special consideration will be given to candidates with expertise in cellular or subcellular physiology of nerve or muscle with emphasis on membrane biophysics.

Candidates should submit curriculum vitae, a complete list of publications, a brief statement summarizing present and future research interests and objectives, and three letters of reference sent to: **R. John Solaro, Ph.D., Chairman of the Search Committee, Department of Physiology and Biophysics, College of Medicine, University of Cincinnati, Cincinnati, Ohio 45267-0576.**

The University of Cincinnati is an Affirmative Action and Equal Opportunity Employer.

TENURED FACULTY POSITION

Yale School of Forestry and Environmental Studies seeks an associate or full professor in geographic information systems as applied to forestry and natural resource management and research. The position involves teaching (graduate level) and research in the use of computers for the management, mapping, and analysis of spatial information, with supporting expertise in remote sensing techniques. Qualifications include a doctorate, experience in graduate teaching, and published research sufficient to establish a national reputation. This tenured, nine-month position has a salary based on qualifications, and is available 1 July 1987. Applications close 1 November 1986. *Yale University is an Equal Opportunity/Affirmative Action Employer.* To apply, send a current curriculum vitae and the names of three referees to:

Search Committee Chairman
Professor George M. Farnival
School of Forestry and Environmental Studies
Yale University
205 Prospect Street
New Haven, CT 06511

POSITIONS OPEN

FACULTY POSITION IN FOOD CHEMISTRY—ASSISTANT PROFESSOR. Tenure-track position, 50 percent teaching and 50 percent research. Candidate should possess a strong background and experience in the chemistry and biochemistry of foods. Teaching responsibilities in undergraduate and graduate food chemistry courses and supervision of graduate students. Develop a research program emphasizing chemical aspects of food components. Salary commensurate with qualifications and experience. Applicants should send curriculum vitae, list of publications, transcripts, statement of objectives, and three letters of reference by 31 July to: **Dr. Jesse F. Gregory, Chairman, Search and Screen Committee, Food Science and Human Nutrition Department, 359 Food Science Building, University of Florida, Gainesville, FL 32611. The University of Florida is an Equal Opportunity/Affirmative Action Employer.**

FORENSIC RESEARCH SCIENTIST

To study relationship between mental illness and crime. Requirements: Ph.D. in sociology, psychology, or a related area. Background in criminology and epidemiology important. Locations: Kirby Forensic Hospital, Wards Island, New York City. Academic appointments at New York University available for eligible candidates. Salary dependent on qualifications. Apply to: **Dr. Michael Kohn, NATHAN S. KLINE INSTITUTE FOR PSYCHIATRIC RESEARCH, Orangeburg, NY 10962.**

A New York State Office of Mental Health facility.
An Equal Opportunity Employer, M/F.

HEAD DIVISION OF STRUCTURAL AND SYSTEMS BIOLOGY

The newly created **School of Basic Life Sciences** at the **University of Missouri-Kansas City** is seeking an individual with an outstanding research program and leadership ability to head the **Division of Structural and Systems Biology**. This person is expected to be actively engaged in research and, through hiring of junior faculty, will have the opportunity to develop a department with significant growth potential. This division has the responsibility of teaching anatomy and physiology to the professional health sciences schools as well as the graduate programs within the School of Basic Life Sciences. The Division Head reports to the Dean of the School of Basic Life Sciences and has the responsibility for promoting excellence in research and teaching and for administering the financial resources of the Division. This person must have a Ph.D. degree or equivalent in biological sciences related to anatomy or physiology and should have held a tenured position at a major university as well as a superior funding record. Candidates may be nominated or may apply by sending a letter of interest, curriculum vitae and names of three individuals to be contacted as references. Please send nominations and applications before 1 October 1986 to:

Dr. M. Martinez-Carrion, Dean
School of Basic Life Sciences
109 Biological Sciences Building
University of Missouri-Kansas City
Kansas City, MO 64110-2499

This position is contingent on pending budget allocations. *UMKC is an Equal Opportunity/Affirmative Action Employer.*

HEAD SECTION OF MICROSCOPIC ANATOMY

Professor or associate professor of anatomy. Tenure-track appointment at the **Northeastern Ohio Universities College of Medicine** with primary emphasis on cell biology and electron microscopy. Ph.D. or M.D. degree with a record of productivity in research required. Excellent opportunities for collaborative research and participation in graduate education. Teaching responsibility entirely in histology; candidate must have experience and strong interest in this subject. Send curriculum vitae, bibliography, statement of teaching and research goals, research funding (past and present), and the names of three references no later than 15 August 1986 to: **The Office of Human Resources, Northeastern Ohio Universities College of Medicine, Rootstown, Ohio, 44272. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

UNIVERSITY OF REGINA FACULTY OF SCIENCE HEAD, DEPARTMENT OF BIOLOGY

Nominations and applications are invited for the position of head of the Department of Biology. The successful candidate will probably be external to the University of Regina, will have an established reputation as a scholar and will have demonstrated a capacity for leadership.

The department currently has 13 full-time faculty members and, in addition to undergraduate programs, offers a graduate program leading to the M.Sc. and Ph.D. degrees. The research interests of the members of the department are in botany, zoology, microbiology, cell biology, and genetics. A number of vacancies are anticipated during the next few years.

Applications or nominations, accompanied by a curriculum vitae, and the names of three referees, should be sent to:

Dr. R. G. Rystephanick
Chairman, Biology Head Search Committee
Faculty of Science
University of Regina
Regina, Saskatchewan
Canada S4S 0A2

In accordance with Canadian immigration regulations, this advertisement is directed to Canadian citizens and permanent residents. If no suitable candidate is identified, the search may, at a later date, be extended to non-Canadian applicants.

The position is to be filled on 1 January 1987, or as soon as possible thereafter.

HEAD DIVISION OF CELL BIOLOGY

The newly created **School of Basic Life Sciences** at the **University of Missouri-Kansas City** is seeking an individual with an outstanding research program and leadership ability to head the **Division of Cell Biology**. This person is expected to be actively engaged in research and, through hiring of junior faculty, will have the opportunity to develop a department with significant growth potential. This division has the responsibility of teaching microbiology and immunology to the professional health sciences schools as well as the graduate programs within the School of Basic Life Sciences. The Division Head reports to the Dean of the School of Basic Life Sciences and has the responsibility for promoting excellence in research and teaching and for administering the financial resources of the Division. This person must have a Ph.D. degree or equivalent in basic microbiology, cell biology, or related biological sciences and should have held a tenured position at a major university as well as a superior funding record. Candidates may be nominated or may apply by sending a letter of interest, curriculum vitae and names of three individuals to be contacted as references. Please send nominations and applications before 1 October 1986 to:

Dr. M. Martinez-Carrion, Dean
School of Basic Life Sciences
109 Biological Sciences Building
University of Missouri-Kansas City
Kansas City, MO 64110-2499

This position is contingent on pending budget allocations. *UMKC is an Equal Opportunity/Affirmative Action Employer.*

PLANT PATHOLOGIST/MICROBIOLOGIST

Crop Genetics International, a focused, product-oriented, agricultural biotechnology company based in the Washington-Baltimore corridor, seeks a phytobacteriologist/microbiologist to join its plant pathology group. Primary responsibilities will be development of selective media and bioassays and their application in studies of microbial ecology under greenhouse and field conditions. Qualifications include a M.S. in plant pathology or related field. Previous experience with epiphytic, endophytic, or soil-borne prokaryotes and their interactions with plants is desirable. This position is available immediately. Goal-oriented individuals with a desire to work on novel microbial products with an energetic multidisciplinary team are encouraged to apply.

Submit résumé and the names of three references to:

Dr. Stanley J. Kostka
Crop Genetics International
7170 Standard Drive
Hanover, MD 21076

FACULTY POSITIONS IN IMMUNOLOGY

The Immunology Program at the Memorial Sloan-Kettering Cancer Center and the Sloan-Kettering Division of the Cornell University Graduate School of Medical Sciences is seeking applications from immunologists for several tenure-track faculty positions. The potential candidate should be using modern genetic, biochemical and molecular biological techniques to study problems in the areas of immunology and immunogenetics. The specific rank of appointment will be commensurate with the candidate's experience and achievements. This is an expanding program consisting of 18 faculty members with diverse interests in the areas of immunogenetics, cellular immunology and tumor immunology, who are committed to basic research and the training of graduate students. Excellent start up funds and space available.

Please submit your curriculum vitae, a brief statement of present and future research goals and the names of three references to:

Dr. Osias Stutman
Chairman, Immunology Program
Sloan-Kettering Institute
1275 York Avenue
New York, New York 10021



An Equal Opportunity/Affirmative Action Employer

NATIONAL INSTITUTES OF HEALTH, PUBLIC HEALTH SERVICE

National Cancer Institute, Division of Cancer Treatment
Clinical Oncology Program, Radiation Oncology Branch

Position Title: Radiochemist/Nuclear Chemist

Qualifications: Position involves research in labelling monoclonal antibodies with metallic radionuclides for clinical use in tumor diagnosis and therapy. A qualified applicant should have:

- A Ph.D. in Nuclear Chemistry or Radiochemistry
- Experience in working with high levels of radioactivity
- Ability to do careful scientific measurements
- Knowledge of radiochemical separations and radionuclide purification

Biological or Radiopharmaceutical experience is desirable.

Salary: Dependent upon experience and qualifications.

Location of Position: Bldg. 10, National Institutes of Health, Bethesda, Maryland

For further information contact:

Dr. Otto A. Gansow
Building 10, Room B3B69
National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20892
Telephone: (301) 496-5936

AN EQUAL OPPORTUNITY EMPLOYER

DIRECTOR UNIVERSITY-BASED R&D LABORATORY

The University of Washington is seeking a Director for its Applied Physics Laboratory. APL is an R&D laboratory which conducts a university-based program of fundamental research, technology advancement, and engineering support emphasizing applications of ocean science and engineering of interest to the Navy. The Laboratory is an established leader in underwater acoustics, small-scale physics of the ocean, the applications of environmental sciences to systems and arctic oceanography. The University's Polar Science Center has recently become part of APL. APL has a full-time staff of 195, including 120 engineers and scientists, and an annual budget of about \$15 million. Many staff members have joint faculty appointments in the College of Engineering, and the College of Ocean and Fishery Sciences. Both undergraduate and graduate students work on laboratory projects, including research leading to Ph.D. dissertations. The Laboratory, which is part of the University's College of Ocean and Fishery Sciences, is supported primarily by the Navy, but also receives support for basic and applied research from NOAA, NASA, DOE, NSF, the Coast Guard, and the University. Candidates should have experience in leading and administering large contract research programs in fields related to ocean science and technology and have demonstrated leadership in both basic and applied research. An important part of the new Director's job will be effective representation of the interests of the Laboratory during a period of significant change in Government-university relationships across the country. It is desirable that the new Director have qualifications that would make him or her eligible for appointment to a tenured position in an appropriate academic unit. U.S. citizenship is required, salary is negotiable, and date of appointment is negotiable, though on or about 1 January 1987 is preferred. Send inquiries, nominations, and applications (resumes and list of three references) by September 1st, 1986 to: **Robert P. Porter (APL Search), Chairman, Electrical Engineering Department, FT-10, University of Washington, Seattle, WA 98195.** The University of Washington is an Equal Opportunity and Affirmative Action Employer.

CELL BIOLOGY RESEARCH

The Upjohn Company has an opening in its Cell Biology/Biotechnology Unit for motivated research associates with B.S. or M.S. degrees and experience in molecular genetics or protein characterization. Qualified applicants should have expertise in techniques such as DNA mapping, sequencing, cloning, Northern and Southern analysis, protein purification, electrophoresis, enzyme assays, tissue culture and chromatography.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a rich mix of cultural, educational and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for career growth, a competitive salary, commensurate with experience, a comprehensive benefits program and relocation assistance. For confidential consideration, please call from outside of Michigan toll free 1/800/253-8600, ext. 3-6767, (inside Michigan call collect 616/323-6767) to request an employment application be sent to you immediately. Please refer to ad number 19594-A when calling.



A Century
of Caring
1886-1986

An Equal Employment Opportunity Employer M/F

AUSTRALIA
CSIRO
RESEARCH FELLOW—MOLECULAR BIOLOGIST
TWO POSITIONS
A\$27,475—A\$33,901
DIVISION OF TROPICAL ANIMAL SCIENCE *
LONG POCKET LABORATORIES
INDOOROOPILLY 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 disease. The Division has groups undertaking immunological, biochemical and molecular studies of the antigens of disease agents. One of these programs is aimed at producing a dead vaccine against the highly pathogenic tick-borne cattle haemo-protozoan parasite *Babesia bovis*.

The babesia vaccine program has reached the stage where a number of highly defined extracts have been isolated which confer protective immunity to susceptible cattle.

DUTIES: As members of a multidisciplinary team, appointees will undertake research into the molecular biology of the haemoparasite *Babesia bovis* and related organisms, with particular regard to the structure and function of the genes encoding for protective antigens. Several protective antigens have been identified and ultimately it is proposed that these antigens be produced by recombinant DNA techniques for vaccine purposes.

QUALIFICATIONS: A PhD degree or equivalent qualifications. Preference will be given to molecular biologists with experience in one or more of the following areas:

- Expression of eukaryotic genes
- Peptide science
- Recombinant DNA technology
- Protozoan gene structure

TENURE: A term of 3 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 Nos M8068 and M8093, should be directed to:

The Chief
 CSIRO Division of Tropical Animal Science
 Private Bag No 3
 INDOOROOPILLY QLD 4068

By August 1, 1986.

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER.

Immunologist



An equal opportunity employer

Pfizer Central Research is seeking a PhD immunologist to pursue research aimed at the discovery and development of human immunotherapeutic agents.

You must have a PhD in immunology, microbiology, cell biology or biochemistry and 1-3 years postdoctoral training. You will join a multidisciplinary research team working to discover new biological response modifying agents. This will involve participation in a variety of ongoing projects designed to assess immunologic function in experimentally compromised hosts and to understand the mode of action of new immunotherapeutics. Demonstrated expertise in analyzing humoral or cellular functions and mechanisms of immune regulation and/or lymphokine mediators is essential.

This position offers an excellent opportunity for professional recognition and career growth. We offer a competitive compensation, benefit and relocation package and the opportunity to live in an attractive Connecticut shore community. Please send resume and a brief description of research interests to: Jerry K. Larson, PhD, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.

POSITIONS OPEN

MANAGER OF SCIENTIFIC AFFAIRS

Through its Symposia Division, Serono provides a forum for the dissemination of medical knowledge. The position of manager, scientific affairs, requires a unique combination of scientist, educator, and communicator, to provide timely educational programs and materials to the medical and scientific community. In addition, there is significant involvement in in-house training programs. Qualifications: Ph.D. in biomedical sciences with a broad background, preferably with 1 to 2 years of postdoctoral research experience, proficiency in medical writing and editing, effective communications skills, preferably with 1 to 2 years of teaching experience, people-oriented personality, and ability to travel. Qualified candidates are requested to send cover letter, résumé, and salary history to: **Mr. Thomas H. Kelly, Jr., Manager, Compensation and Employment, Serono Laboratories, Inc., 280 Pond Street, Randolph, MA 02368.**

MOLECULAR NEUROBIOLOGIST: Positions are now available for individuals with proven proficiency in recombinant DNA techniques interested in leadership position in a program devoted to the study of neural and developmental control of gene expression in the pineal gland. Send curriculum vitae and bibliography and have three letters of recommendation sent to: **Dr. David C. Klein, Section on Neuroendocrinology, Laboratory of Developmental Neurobiology, National Institute of Child Health and Human Development, National Institutes of Health, Building 10, Room 8D-42C, Bethesda, Maryland 20892; telephone contact: 301-496-6915. An Equal Opportunity Employer.**

NMR/MRI ENGINEER. The Nuclear Magnetic Resonance (NMR) Spectroscopy Laboratory of the University of Arkansas for Medical Sciences is seeking an individual to design, build, and implement radiofrequency circuitry and NMR instrumentation, including imaging and surface coils/probes in support of biomedical research. The successful candidate should have a degree or related experience with an interest in working in a research environment. He/she will have the opportunity to collaborate with users of the NMR laboratory on projects relating to instrumentation and technique development. The laboratory will have (July 1986) a GE CSI-4.7 T, 33-cm bore imaging/spectroscopy unit and a fully equipped GN-300 high resolution spectrometer. Also available will be a GE 1.5 T clinical imager with spectroscopy capability. Send résumé and salary requirements to: **Richard A. Komoroski, Ph.D., Department of Radiology, University of Arkansas for Medical Sciences (UAMS), 4301 West Markham Street, Little Rock, AR 72205; telephone: 501-661-5740.**

UAMS is an Affirmative Action/Equal Opportunity Employer.

PHARMACOLOGIST, GS-405-12. Naval Health Research Center needs pharmacologist to plan and conduct behavioral pharmacological research studies of effects of pharmacological agents on health, performance, sleep, alertness, and autonomic function in human subjects. A doctorate degree or equivalent in pharmacology with specialization in effects of pharmacological agents on human subjects. Standard Form 171, transcripts required. Telephone: **J. Banks at 619-225-2911** for information.

POSTDOCTORAL POSITION available immediately for an individual with training in immunology/immunochemistry. The position requires laboratory experience in the production of monoclonal antibodies, isolation and purification of antibodies and in RIA techniques. Send résumé and list of three references to: **Michael Mayersohn, Ph.D., College of Pharmacy, University of Arizona, Tucson, AZ 85721. Affirmative Action/Equal Opportunity Employer.** Closing date for applications is 1 August 1986.

POSTDOCTORAL POSITION. Available immediately to study human tumor antigens using immunological and biochemical techniques, with a special emphasis on carbohydrate determinants. Biochemical or immunochemical experience required; recent Ph.D. preferred. Salary open. Send curriculum vitae and name of three references to: **Dr. K. O. Lloyd, Memorial Sloan-Kettering Institute, 1275 York Avenue, New York, NY 10021. Equal Opportunity Employer, M/F/H/V.**

POSITIONS OPEN

MOLECULAR BIOLOGIST/GENETICIST

The Insect Genetics and Cell Biology Section of the Metabolism and Radiation Research Laboratory, U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Fargo, North Dakota, is seeking applicants for a position as a **RESEARCH GENETICIST**. Basic research in molecular genetics of Lepidoptera to include molecular analysis of lepidopteran genomes, develop clone libraries, search for transposable elements that might be used for gene transfer in economically important Lepidoptera. Requirements include Ph.D. and knowledge of (i) molecular biology/biochemistry, (ii) nucleic acid manipulations including hybridization techniques, recombinant DNA technology, and (iii) transposable elements. The position is a 3-year postdoctoral appointment. Must be a U.S. citizen. Salary \$26,381 per year. For information on the research program or position, contact: **Dr. Richard L. Roehrdanz, telephone: 701-237-5771, extension 5428**. For information on application procedures/forms, contact: **Miriam Pritchard, telephone: 301-344-2756**. Applications should be marked Code number 6N008 and be received by 1 August. Mail applications to: **Special Examining Unit, USDA Agricultural Research Service, Room 409, Building 003, BARC-West Beltsville, MD 20705. An Equal Opportunity Employer.**

QUANTITATIVE PSYCHOLOGIST. The Department of Behavioral Sciences, University of Chicago, invites applications for a position as **assistant professor** in the area of behavioral statistics, mathematical psychology, or psychometrics. The appointment will be joint in the Committee on Research Methodology and Quantitative Psychology and another committee (for example, the Committee on Human Development). Special competence in the modeling and analysis of longitudinal and other forms of non-experimental multivariate data is essential. A master's degree in statistics, in addition to a Ph.D. in psychology or allied field is desirable, but not required. Address **Committee on Research Methodology and Quantitative Psychology, Department of Behavioral Sciences, University of Chicago, 5848 South University Avenue, Chicago, Illinois 60637.**

POSITIONS OPEN

JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

POSTDOCTORAL FELLOW IN IMMUNOGENETICS/MOLECULAR BIOLOGY with Ph.D. degree or M.D. (with research experience) to work on genetics of human immune response to allergens. Group with 15 years of experience in this area is now making a major thrust into the sequencing of HLA-D-region genes. Candidate must have background in recombinant DNA technology; experience in protein purification/characterization advantageous. Demonstrated research creativity essential. Send résumé, curriculum vitae, copies of two publications and names of 3 to 4 referees to: **David G. Marsh, Ph.D., Johns Hopkins University School of Medicine at The Good Samaritan Hospital, 5601 Loch Raven Boulevard, Baltimore, MD 21239.**

Affirmative Action/Equal Opportunity Employer.

Oregon State University/Physical Oceanography: Applications are invited for a 3-year, **POSTDOCTORAL POSITION** in the College of Oceanography. The successful applicant will join in the analysis of ocean turbulence data obtained on the TROPIC HEAT I cruise (1984), on the TROPIC HEAT II cruise (1987), and in the Coastal Transition Zone experiment (1987/1988). He or she will take an active role in seagoing work, and will be expected to undertake substantial responsibility for the CTZ experiment. Qualifications include (i) a Ph.D. in physical oceanography, physics, or engineering, with a strong background in fluid dynamics, (ii) experience in seagoing experiments, (iii) the willingness to spend several months per year at sea, and (iv) genuine interest in small-scale processes in the ocean. Salary: \$24,000 to \$28,000, depending on qualifications. Résumé, with names, addresses, and telephone numbers of three references should be received by 30 July 1986 by: **Douglas R. Caldwell, College of Oceanography, Oregon State University, Corvallis, OR 97331.** For further information, please contact: **Douglas R. Caldwell, telephone: 503-754-3504; or Jim Moum, telephone: 503-754-4654. Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.**

POSITIONS OPEN

PHARMACODYNAMIC MODELING

Recent Ph.D. in a biomedical discipline with an interest in application of computer modeling to mechanisms of toxicity. The ideal candidate will have strong preparation in one or more of the following areas: biochemical toxicology, DNA biochemistry, pharmacokinetics, and computer programming.

Send résumé, including salary history, to: **Northrop Services, Inc., 101 Woodman Drive, Suite 12, Dayton, Ohio 45431.**

Equal Opportunity/Affirmative Action Employer, M/F/Veteran/Handicapped.

POSTDOCTORAL POSITION IN TUMOR IMMUNOLOGY

Studying the role of major histocompatibility complex class I genes in differentiation and tumor growth available for 2 to 3 years beginning September 1986 at the University of Maryland Baltimore County, Catonsville, Maryland 21228. Successful applicant should have a strong background in immunology and/or molecular biology. Send curriculum vitae, name, address, and telephone number of three references, and brief summary of research experience and interest to: **Dr. S. Ostrand-Rosenburg, Division of Biology 147-75, Caltech, Pasadena, CA 91125.**

2 POSTDOCTORAL POSITIONS available immediately to engage in (i) bioorganic and metabolic studies of xenobiotics or arachidonic acid, and (ii) molecular biology and protein biochemistry of drug-metabolizing enzymes. Candidates should have experience in organic synthesis, metabolism, or toxicology.

Candidates for the other position should have experience in DNA techniques and protein biochemistry. Send résumés and the names of three references: **Dr. John Cashman, 926-S, School of Pharmacy, Department of Pharmaceutical Chemistry, University of California, San Francisco, CA 94143.**

U.S. PUBLIC HEALTH SERVICE EPIDEMIOLOGY TRAINING PROGRAM 1987

Applications are invited for a three-year training program in Medical Epidemiology. Successful candidates will be appointed as USPHS service fellows (a non-tenured, junior professional civil service classification). Applications must be received by September 8, 1986, to be considered for the period to begin approximately July 1, 1987.

During the first year, successful trainee applicants will attend a university to study epidemiology, biostatistics, and related subjects. During the subsequent two years, individuals will work with senior epidemiologists in participating USPHS agencies (Alcohol, Drug Abuse, and Mental Health Administration; Food and Drug Administration; National Center for Health Statistics; and the National Institutes of Health) primarily in research studies. A matching procedure will be employed to assure that each individual is assigned to a preceptor whose area of expertise is of interest to the trainee, and consistent with his/her career plans. Salaries will be provided according to the scale in effect for staff fellows in intramural research at ADAMHA and NIH. First year salaries are currently \$30,000 for physicians, \$21,000 for non-physicians. Educational costs and (allowable) relocation expenses for the first year are provided.

Basic requirements for application to the program are:

1. M.D., doctorate in an allied health profession, or Ph.D. in a biomedical or behavioral science, or equivalent, *and* one year of post-doctoral training or experience (by July 1, 1987).
2. U.S. Citizenship at time of application.
3. Acceptability to an accredited university offering an M.P.H. or equivalent, or more advanced public health degree (for the first year of this program).

To obtain further program details and application forms, send a postcard only, with your printed name and home mailing address to:

**PHS Epidemiology Training Office
Attention: E. Patterson
NIH, Building 1, Room 238
Bethesda, Maryland 20892**

Please . . . **DO NOT SEND** letters, curriculum vitae, resumes, transcripts, reprints, etc. until you have reviewed the instructions for submission and completed the application form.

(The USPHS is an equal opportunity employer)

Protein Biochemistry

The Protein Biochemistry Department of Smith Kline & French Laboratories is seeking several Associate Scientists to isolate and characterize novel recombinant protein drugs; to develop new state-of-the-art methods of purifying proteins; and to develop new methods for assaying proteins.

The successful candidates must have:

- B.S./B.A. or equivalent in Biochemistry, or in Chemistry or Biology with relevant laboratory training.
- at least two years experience in protein purification and good knowledge of extraction methods, column chromatography, electrophoresis.
- knowledge of basic techniques for protein assay including SDS-PAGE, EIA, and Western blots.
- excellent communication skills.

Additional specifications that are desirable but not required include:

- M.S./M.A. in Biochemistry, or in Chemistry or Biology with relevant training.
- experience with chemical modification of proteins, fragmentation of proteins, radiolabelling.
- experience in scaling-up protein purification; purifying proteins under GMP conditions.
- knowledge and experience in HPLC of proteins, use of lab computers, use of immunochemical techniques in purifying and characterizing proteins.
- ability to work independently.

Located in a new, state-of-the-art research complex near Valley Forge Pennsylvania, Smith Kline & French Laboratories offers an excellent compensation, benefits, and relocation package as well as opportunities for personal and professional growth. For confidential consideration, send your C.V. and names of 3 references to **George P. Kissell, Jr., Manager, Personnel Relations, SmithKline Beckman Corporation, 1590 Spring Garden Street, Philadelphia, PA 19101.** We are an Equal Opportunity Employer, M/F/H/V.

SK&F
A SmithKline Beckman Company

POSITIONS OPEN

POSTDOCTORAL POSITION open for Neuroanatomist with experience in immunohistochemistry. Position entails in situ hybridization studies of gene sequences related to Alzheimer's disease. Work with an interdisciplinary group of neurobiologists and molecular geneticist. Forward résumés to: **C. E. Finch, Ph.D., University of Southern California, Andrus Gerontology Center MC0191, Los Angeles, California 90089-0191.**

POSTDOCTORAL POSITION available at Children's Hospital, Harvard Medical School, for Ph.D. with background in biochemistry and immunochemistry to join well-established research group for analysis of angiogenesis and endothelial cell growth factor structure, mechanism of action, and levels in normal and malignant tissue. Experience in methods such as protein purification, antibody production, radioimmunoassay, and immunoblot desired. Send résumé and references to: **Dr. Michael Klagsbrun, Children's Hospital, 300 Longwood Avenue, Boston, MA 02115.**

POSTDOCTORAL POSITION available late fall, to study enzymatic mechanisms of deoxy sugar biosynthesis. Must have Ph.D. in chemistry/biochemistry or related field. Experience in protein purification or recombinant DNA. Send curriculum vitae and three recommendation letters by 15 September 1986 to: **Dr. Ben Liu, Chemistry Department, University of Minnesota, Minneapolis, MN 55455. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.**

POSTDOCTORAL POSITION for Ph.D. with experience in molecular cloning of gene regulation. The proposed project involves the cloning of a hormonally induced plasma membrane transport protein and the study of its regulation using genomic sequencing. Salary of \$20,000 plus negotiable, depending on experience. Send curriculum vitae and the names of three references to: **Dr. Harry Nick or Dr. Michael S. Kilberg, Department of Biochemistry and Molecular Biology, Box J-245, J. Hillis Miller Health Center, University of Florida, Gainesville, FL 32610.**

POSTDOCTORAL POSITIONS. Molecular analyses of cellular development through conditional blocks, effector processing, cyclic nucleotide receptors, a natural pheromone (SH-containing cyclic ribotide), protein phosphorylation, phospholipid metabolism, or regulations of de novo cell wall biogenesis.

Send curriculum vitae and names of references to: **Dr. David R. Sonneborn, Zoology Research Building, University of Wisconsin, 1117 West Johnson Street, Madison, WI 53706.**

An Equal Opportunity Employer.

POSTDOCTORAL POSITIONS available now to study mitochondrial evolution and differentiation by DNA sequencing. Background in biochemistry and/or molecular biology helpful. Salary negotiable. Send curriculum vitae and names of three references to: **Dr. D. J. Cummings, Department of Microbiology and Immunology, University of Colorado School of Medicine, Denver, CO 80262. The University of Colorado is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL/ELECTRON MICROSCOPY. Postdoctoral fellow, electron microscopist/cell biologist interested in project on role of mast cells in eye allergies. Studies may include EM histochemistry, as well as light microscopic analysis of degranulating mast cells in a mucosal system. Write: **Mathea R. Allansmith, M.D., Eye Research Institute and Harvard Medical School, 20 Staniford Street, Boston, MA 02114. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION, PROTEIN PHYSICAL BIOCHEMISTRY. Available immediately to study structure-function relationships and allosteric mechanism of *Escherichia coli* aspartate transcarbamylase. Methods in use include site-directed mutagenesis, hydrogen exchange, reaction, and differential scanning microcalorimetry. Experience in computer programming desirable. Send résumé and three letters of recommendation to: **Dr. Norma Allewell, Department of Molecular Biology and Biochemistry, Wesleyan University, Middletown, CT 06457.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN CARDIOVASCULAR PHYSIOLOGY: Applications are invited for a 2-year NIH-funded position commencing in summer 1986 at the Medical College of Ohio. Candidates should have an interest in hierarchy of blood pressure control mechanisms, hypertension, neural and local control of peripheral blood flow, or cardiovascular responses to exercise. Send résumé and the names of three references to:

**Steven L. Britton
Department of Physiology
Medical College of Ohio
Toledo, Ohio 43699**

POSTDOCTORAL POSITION IN IMMUNOLOGY/TOXICOLOGY research laboratory investigating genetic and molecular mechanisms of immunosuppression by halogenated aromatic hydrocarbons. NIH grant funded position through 30 April 1988 with Health Research, Inc., salary commensurate with experience. Send résumé to: **Dr. Jay Silkworth, Biochemical and Genetic Toxicology, Wadsworth Center for Laboratories and Research, New York State Department of Health, Empire State Plaza, Albany, New York 12201.**

POSTDOCTORAL POSITION: IMMUNOLOGY

Postdoctoral position available to study ontogeny, activation, proliferation, and function of cytolytic effector cells. Emphasis will be placed on in vivo regulation during viral infections and autoimmune disease. Molecular techniques will be employed. Send curriculum vitae and names of three references to: **Dr. Christine A. Biron, Department of Pathology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA 01605. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION—MOLECULAR, IMMUNOLOGIC, AND BIOLOGIC STUDY OF AIDS. Experience in cell culture and clinical virology and/or molecular approaches to virology helpful. Position open anytime after August 1986. Send curriculum vitae to: **Dr. Jay Levy, Cancer Research Institute, University of California, San Francisco, CA 94143-0128.**

POSTDOCTORAL RESEARCH ASSOCIATE 40 hours per week/\$19,000 per year

Performing high-resolution single-crystal x-ray studies on inorganic complexes using automated x-ray diffractometers; computer processing of data; development of computer software for theoretical analysis of experimental results; and preparing manuscripts for presentation and publication in scientific journals. Education, training, and experience required: Ph.D. in inorganic chemistry; graduate level education in the field of x-ray crystallography; experience in the use of automated single crystal diffractometers; experience in computer processing of scientific data; writing ability to prepare papers for presentation and publication. Send résumé and three letters of recommendation.

Contact: **Louisiana Office of Employment Security, 617 St. Charles Avenue, New Orleans, LA 70130.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available starting 1 July 1986 to study regulatory aspects of protein associations in the red blood cell cytoskeleton. Seeking a candidate with a high degree of independence and motivation to join an active research group. Specific areas of interest will include purification of novel membrane proteins, regulation of protein associations by phosphorylation, and studies of protein abnormalities in inherited hematologic disorders. Experience in preparative biochemistry, membrane biology, and cytoskeletal proteins helpful. Salary level will be commensurate with experience. Send applications with curriculum vitae and the names of three references to: **Dr. Carl M. Cohen, Chief, Division of Cellular and Molecular Biology, St. Elizabeth's Hospital, 736 Cambridge Street, Boston, MA 02135.**

An Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH AT THE NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH—NCTR's research mission is to study the biological effects of potentially toxic chemicals. Doctoral degree received within last 3 years required. Stipend is \$23,000 to \$28,000, depending on research area. For information and applications, contact: **Oak Ridge Associated Universities Postgraduate Research Program at NCTR, University Programs Division, P.O. Box 117, Oak Ridge, TN 37831; telephone: 615-576-3190. This is an Equal Opportunity Program open to U.S. citizens or PRA.**

POSTDOCTORAL RESEARCH ASSOCIATE POSITION is available to study the structure and function of the dynein ATPase. Candidate must have experience in high resolution, low dose electron microscopy (TEM and STEM), and EM immunolocalization. Experience in the production and characterization of antibodies and in protein purification is desirable. By 1 September 1986, send curriculum vitae and the names of three references to: **Dr. Kenneth A. Johnson, Box 301, Molecular and Cell Biology, Pennsylvania State University, University Park, PA 16802. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE to participate in studies of cardiac trauma and the effects of drugs to influence the cardiac effects of blunt trauma. Experience required in the study of the effects of trauma on the intact or isolated perfused heart, cardiac electrophysiology, and pharmacology. Ph.D. degree in basic biomedical science. To apply, send curriculum vitae and names of three references to: **Dr. B. H. Marks, Department of Pharmacology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION available immediately for study of biochemistry/molecular biology of polypeptide hormone receptors. Knowledge of relevant preparative and analytical techniques required. Salary according to experience.

POSTDOCTORAL RESEARCH POSITION available for study of cellular aspects of autoimmune thyroid disease. Expertise in cloning T-cell subsets desirable. Salary according to experience. Send curriculum vitae to: **M. Zakarija, M.D., Department of Medicine (R-93), University of Miami School of Medicine, P.O. Box 016760, Miami, FL 33101.**

RESEARCH ASSISTANT POSITIONS BIOTECHNOLOGY

NPI, a firmly established plant biotechnology company, is seeking applicants for research assistant positions in molecular biology. Potential candidates with either a B.S. or M.S. degree and experience in recombinant DNA techniques should contact:

**Dr. R. K. Prakash
NPI
417 Wakara Way
Salt Lake City, UT 84108**

RESEARCH ASSISTANT PROFESSOR/POSTDOCTORAL FELLOWS and/or RESEARCH ASSOCIATES—to conduct in vivo NMR spectroscopy and imaging bioenergetics research on human subjects and animal models. Will work on technical developments on large bore NMR system for multinuclear NMR investigations. Please send curriculum vitae, bibliography, and two letters of reference to: **Dr. John S. Leigh, University of Pennsylvania, D501 Richards/G4, Philadelphia, PA 19104-6089. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE. Division of Radiation Sciences in Radiology Department at Medical University of South Carolina (MUSC) seeks a research associate in cell culture cell biology and/or biophysics. Preference will be given to a candidate who has basic knowledge of IC ion level determination by fluorescence and p-31 NMR spectroscopy. Salary will be \$20,000 to \$30,000, depending on qualification. Send curriculum vitae and three letters of reference by 20 July to: **Dr. P. N. Yi, 808 Research Building, Medical University of South Carolina, Charleston, SC 29425.**

SMITHSONIAN TROPICAL RESEARCH INSTITUTE MARINE BIOLOGICAL RESEARCH

The central Caribbean coast of Panama, following a major oil spill, will be the center of a five year study of the effects of oil on tropical marine environments. **THREE POSITIONS** are available, to begin as soon as possible.

Program Manager to supervise logistics, coordination, and procurement for the study. Requires managerial experience and biological training. Salary from \$26,381.

Subtidal Reef Ecologist to study impact of oil on sessile invertebrates, urchins, and territorial fishes. Requires Ph.D. in marine ecology and extensive SCUBA diving experience. Salary from \$26,381.

Data Analyst to enter and analyze data from previous environmental monitoring efforts, as well as, post oil spill assessment. Requires expertise in statistical analysis of ecological data and use of microcomputers. Salary from \$21,804.

Send letter stating interests and availability, curriculum vitae, and names of three references to:

DR. JEREMY B. C. JACKSON
MARINE SCIENCE COORDINATOR
SMITHSONIAN
TROPICAL RESEARCH INSTITUTE
APO MIAMI, 34002-0011

Applications will be considered until positions are filled.

STRI is an equal opportunity/affirmative action employer.

THE FIRST WORD IN... DIAGNOSTIC R & D

Advanced scientific research and development has enabled Abbott Laboratories to become the world leader in the rapidly expanding field of medical diagnostics. Our success in diagnostics has made this the fastest growing segment of our \$3.5 billion corporation and has created the following positions.

IMMUNOLOGISTS

Two positions currently available requiring a Ph.D. in Immunology. One position requires 1-2 years post-doctoral experience, the other 3-5 years postdoctoral experience. A background in clinical immunology, immunocompetence or anti-viral immunity is needed for both.

In addition to our advanced scientific environment, Abbott offers excellent salaries and full benefits including stock purchase plan and profit sharing. Our headquarters is located in an attractive suburban setting on the Lake Michigan shoreline, just 30 miles north of Chicago. For confidential consideration, please send your resume with salary history to: **Sue Hart-Wadley/Corporate Placement, Dept. S/7-4**. Abbott is an Affirmative Action Employer.

ABBOTT
ABBOTT PARK IL 60064

"HEALTH CARE WORLDWIDE"

THE FIRST WORD IN ... SUCCESS.

THE SCIENCE RECRUITMENT

"FOUR DAY CLOSE"
NOW YOU CAN SEE YOUR AD IN SCIENCE
FOUR DAYS AFTER SUBMISSION

Scientific Recruiters can now advertise positions almost as soon as the need arises. Instead of reserving space a month or more in advance, you can now place your ad four days before the magazine mailing date.

Film (right-reading, emulsion face down), and insertion order must reach: **SCIENCE**, Short Close Desk, 1515 Broadway, New York, NY 10036 by **NOON Mondays** (except for legal holidays when material must reach New York by Noon Fridays). Because space is limited, the four-day close page will be reserved on a first-come, first-served basis.*

Now you don't have to wait to find the researchers you need immediately, nor must you advertise in a Sunday paper that pans a lot of sand, but not much gold. Scientific employers know that **SCIENCE** ads fill the job better. Now they fill it faster too.

You can call it "INSTANT RECRUITMENT."

For further information, telephone Ed. Keller, Recruitment Advertising Manager, or Donna Rivera, Production Manager at **SCIENCE**: 212-730-1050, or write to: **SCIENCE**, 1515 Broadway, NY, NY 10036.

CURRENT DISTRIBUTION 160,000

*At a 15% Premium

PHARMACEUTICAL

PRODUCTION SUPERVISORS

CONNAUGHT LABORATORIES, INC. is a major producer of human vaccine. Expansion has created two new positions for Manufacturing Supervisors, Vaccine Production.

Major duties will involve overseeing the preparation and processing of vaccine and provide technical support in troubleshooting manufacturing problems.

Positions require a PhD in Biological Science with experience in fermentation and/or tissue culture technology.

CONNAUGHT is located in the Pocono Mountains of northeastern Pennsylvania. We offer a competitive salary and comprehensive benefits program. Send CV and compensation requirements to: **J.M. Occhipinti**.

CONNAUGHT
LABORATORIES, INC.
Swiftwater, PA 18370

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

POSITIONS OPEN

COMMONWEALTH AIDS RESEARCH GRANT DEPARTMENT OF VIROLOGY WESTMEAD HOSPITAL, SYDNEY 2145 AUSTRALIA

POSTDOCTORAL RESEARCH ASSOCIATE

Applications are invited for a Ph.D. with postdoctoral experience in virology or molecular biology to join a research team investigating molecular aspects and immunology of the AIDS virus (HTLV-III/LAV or HIV). The applicant would be expected to carry out his/her own research and assist with existing research activities. Experience in molecular biology and recombinant DNA technology is essential. Tissue culture experience is desirable.

The appointment will be renewable yearly for up to 3 years and will be in the salary range of A\$27,233 to A\$29,140 per annum.

Closing date for applications is 18 July 1986.

Applications together with curriculum vitae, research experience and interests, and the names of two professional referees, should be sent to: **Dr. A. L. Cunningham, Department of Virology, Westmead Hospital, Westmead, 2145, Australia. Telephone: 02-633-6229.**

An Equal Opportunity Employer.

RESEARCH ASSOCIATE-LIPID BIOCHEMIST.

A new biotechnology company in Denver, Colorado, is seeking a research scientist with a recent Ph.D. and at least 2 years of postdoctoral experience and a strong background in lipid biochemistry to work in a group studying the mechanism of intracellular signaling for downregulation of cholesterol biosynthesis. Starting annual salary will be \$50,000. Send your curriculum vitae along with the names, addresses, and telephone numbers of three references to: **Dr. Michael Sinensky, Head, Sterol Metabolism Research Program, 1899 Gaylord Street, Denver, Colorado 80206.**

The Department of Pathology at The University of Michigan Medical School seeks applicants with clinical training for a **RESEARCH INVESTIGATOR POSITION**. A Ph.D. in biology, immunology, or chemistry with 1 to 3 years of postdoctoral experience.

Qualified candidates should contact: **Peter A. Ward, M.D., Professor and Chairman, Department of Pathology, M5240 Medical Science I, Box 0602, The University of Michigan Medical School, 1315 Catherine Road, Ann Arbor, MI 48109-0602.**

RESIDENT DIRECTOR OF RESEARCH

Plan, organize, direct, and control the agricultural research activities for a large research center in the Rio Grande Valley of south Texas. Research emphases are horticulture, agronomy, plant pathology, and entomology. Management responsibility includes supervision of fourteen scientists and administration of a \$2-million budget. Requires Ph.D. in agricultural discipline and progressively responsible management experience. Salary open.

Position will be filled when suitable candidate is located. Submit résumé and names of three references to:

**Director
Texas Agricultural Experiment Station
College Station, Texas 77843-2147
*An Equal Opportunity Employer***

SENIOR RESEARCH ASSOCIATE

Protein biochemist holding Ph.D. degree and at least 2 years of postdoctoral training to be an active participant in well-developed, but innovative study of biologically relevant protein-lipid interactions. Problem area deals primarily with separation, isolation, and characterization of unique human liver secretory proteins having a variety of biological functions. Co-workers consist of an interactive group already of critical size for productivity. Candidates should have appropriate biochemistry, cell biology, and possibly applied immunochemistry experience. Submit complete résumé and names of three references to: **G.I. Research Unit, Cleveland Clinic Foundation Research Institute, 9500 Euclid Avenue, Cleveland, OH 44106-0410. *An Equal Opportunity Employer.***

POSITIONS OPEN

RESEARCH ASSISTANT needed to participate in the production and breeding of transgenic mice. M.S. (or B.S. and equivalent experience), practical knowledge of mouse embryology, and ability to learn micromanipulation techniques required. Starting salary: \$18,500 to \$21,000. Send résumé to: **Dr. F. Costantini, Department of Genetics and Development, Columbia University, 701 West 168 Street, New York, NY 10032. *Affirmative Action/Equal Opportunity Employer.***

RESEARCH ASSOCIATE, Ph.D. Immediate position available to set up laboratory for neuropsychopharmacological drug assays for research involving biochemical and behavioral influences of catecholamines and related neurotransmitters in human and nonhuman primates. Academic appointment possible. Send curriculum vitae and three references to: **Daniel E. Casey, M.D., Psychiatry Service, VA Medical Center, Portland, OR 97207. *Affirmative Action/Equal Opportunity Employer.***

SYMPOSIUM

PROTEINS AT INTERFACES

A symposium on this topic will be held 8 September 1986 to 12 September 1986 at Anaheim, CA, at the American Chemical Society Fall National Meeting. Over 60 papers will be presented in nine sessions, with considerable international representation. See *Chemical and Engineering News*, 14 July 1986 issue, or write: **Professor T. A. Horbett, Chemical Engineering, BF-10, University of Washington, Seattle, WA 98195.**

SYMPOSIUM ON OXYGEN FREE RADICALS AND TISSUE INJURY 11 to 13 September 1986.

The University of Michigan, Ann Arbor, Michigan. For additional information contact: **Dr. Benedict R. Lucchesi, The University of Michigan Medical School, M-6322, Medical Science Building I, Ann Arbor, Michigan 48109. Telephone: 313-747-3134 or 313-764-9116.**

FELLOWSHIPS

NEUROTOXICOLOGY

A postdoctoral fellowship is available as part of an active, interdepartmental NIEHS toxicology training program. Studies will focus on the evaluation of membrane damage by fluorescence polarization, membrane potential evaluation, and assay of cytosolic ionic calcium. A background in neurobiology, toxicology, pharmacology, or biochemistry is desirable. Applicants must be U.S. citizens or permanent residents, or must have alternative fellowship support. Send résumé, statement of interests, and names of references to: **Dr. S. C. Bondy, Occupational Health Center, Department of Community and Environmental Medicine, University of California (UCI), Irvine, CA 92717. *UCI is an Affirmative Action/Equal Opportunity Employer.***

A POSTDOCTORAL FELLOWSHIP POSITION is available immediately to study arachidonic acid metabolism in pulmonary mononuclear cells with emphasis on leukotriene and prostaglandin products. Candidates should have some experience in cell culture techniques, HPLC, and radioimmunoassay. Send curriculum vitae and three letters of recommendation to:

**Dr. Laurence M. Demers
Department of Pathology
The M.S. Hershey Medical Center
The Pennsylvania State University
P.O. Box 850
Hershey, Pennsylvania 17033**

POSTDOCTORAL TRAINING FELLOWSHIP Immediate opening

Postdoctoral position supported through NIH training grant stipend available immediately for qualified Ph.D. to pursue research training in the area of lipoprotein biochemistry and metabolism. Contact: **Dr. Ronald B. Goldberg, M.D., University of Miami School of Medicine, Department of Medicine (R-134), P.O. Box 016960, Miami, FL 33101; telephone: 305-547-5989 for further information.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN COASTAL ECOLOGY FOR AN ESTABLISHED ENVIRONMENTAL ORGANIZATION

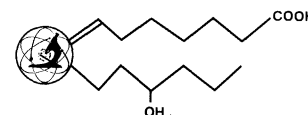
Ph.D. in marine ecology or related field. Experience in coastal/estuarine environmental problems. To design and implement original research and communicate results in technical and lay terms. To provide technical assistance to local governments and citizens. Transcripts, three letters of reference, and reprints to: **Director, Environmental Science Department, Massachusetts Audubon Society, Lincoln, MA 01773.**

POSTDOCTORAL FELLOWSHIP

The Laboratory of Developmental Neurobiology, National Institute of Child Health and Human Development, National Institutes of Health, invites applications for a staff fellow to join an established research program on the development and cellular physiology of the mammalian CNS, using tissue culture and advanced electrophysiological techniques. Proven experimental ability, a strong background in electrophysiology, and an interest in programming laboratory computers are highly desirable. Send curriculum vitae and three letters of reference to: **Dr. Philip Nelson, NIH, Building 36, Room 2A-21, 9000 Rockville Pike, Bethesda, MD 20892. *An Equal Opportunity Employer.***

CONFERENCE

INTERNATIONAL CONFERENCE ON PROSTAGLANDIN AND LIPID METABOLISM IN RADIATION INJURY



To be held 2 and 3 October 1986 at the Crowne Plaza Hotel in Rockville, Maryland.

Included among planned topics of discussion are: Methods for detecting arachidonic acid metabolites and other products of lipid peroxidation. Mechanisms of arachidonic acid and lipid peroxidation. Free radical generation and associated membrane and DNA damage. Alterations of prostaglandins and other lipids induced by ionizing radiation and by ultraviolet light in biological tissues. Prostaglandins as mediators of radiation damage, their role in tissue recovery processes, and their use as radioprotective agents.

The meeting will include both platform and poster presentations. These proceedings will be published. The abstract deadline is 16 August 1986. Registration fee is \$45 (\$25 for students).

Sponsored by The Armed Forces Radiobiology Research Institute. For further information, contact: **Dingle Associates, 1625 Eye Street, NW, Suite 915, Washington, DC 20006.**

MARKETPLACE

FOR SALE: BECKMAN SYSTEM 990C PROTEIN PEPTIDE SYNTHESIZER

- Excellent Condition
 - and Good Price (Negotiable)
- For Information Contact:
**Purchasing Dept.
Cold Spring Harbor Laboratory
(516) 367-8326**

FIND YOUR REPRINTS FAST

BOOKPRO PLUS Computer Reference System

- Retrieval in seconds
 - Prints bibliographies
 - Multiple cross-indexes
- IBM-PC, XT, AT \$150
Apple II+, e, c \$175
Add \$5 shipping in USA

ARISOFT SYSTEMS

25824 Dundee Road
Huntington Woods, MI 48070
(313) 547-3433

Circle No. 63 on Readers' Service Card

CYTO-CHEMIST

Baker Instruments Corporation, division of Richardson-Vicks and Procter & Gamble, a leading developer and marketer in the clinical diagnostic industry, located in southeastern Lehigh Valley, Pennsylvania, is seeking a SENIOR SCIENTIST to provide expertise in innovative hematology research and development.

The successful candidate will possess a BS and 5+ years experience or an MS/PhD with 2+ years experience in hematology research with an emphasis on cell differentiation, cyto-chemical methods and control materials.

Baker offers competitive salaries and benefits including dental, incentive and full relocation. Qualified candidate should forward resume including salary history to Manager, Recruiting.



BAKER INSTRUMENTS CORPORATION
P.O. Box 2168
Allentown, PA 18001

An Equal Opportunity Employer, M/F

PROGRAM DIRECTORS

Microbiological Research and Development

DIFCO Laboratories, a world leader in products for the microbiology laboratory since 1895, seeks Program Directors for an expanding effort in immunodiagnostics and microbial metabolism at the new, state-of-the-art, research and development facility in Ann Arbor, Michigan. The challenging positions offer opportunities to direct sizable groups with several Ph.D. level scientists.

Qualifications for the two positions include industrial experience in the development of in-vitro products as well as strong management and technical capabilities. Candidates with a strong academic background will also be considered. For the immunodiagnostics position, preference will be given to candidates with current experience in bacterial and viral infectious disease testing. The microbial metabolism program will focus on equipment and assays that incorporate microbial growth for rapid detection, quantitation, identification, and susceptibility testing.

For consideration for these excellent opportunities, please send resumes to:



Jerry W. Smith, Ph.D.
Vice President,
DIFCO LABORATORIES
Research and Development Center
1180 Ellsworth Road
Ann Arbor, MI 48104 USA

Equal Opportunity Employer M/F

The Pennsylvania State University Dean of the College of Health and Human Development

The Pennsylvania State University invites applications and nominations for the position of Dean of its newly created College of Health and Human Development. The new College provides a base within the University for a concentrated academic focus on human health and well-being. The College was formed by merging existing programs formerly located in the College of Human Development and the College of Health, Physical Education and Recreation. The combined enrollment of the two colleges was 2800 undergraduate majors and 410 graduate students during the 1985 fall semester served by 270 full-time equivalent faculty. The operating budget for the new College is approximately \$12 million.

The College includes the following academic units: Exercise and Sports Science; Health Education; Health Planning and Administration; Hotel, Restaurant, and Institutional Management; Individual and Family Studies; Nursing; Nutrition; and Recreation and Parks. Over \$4 million in external research funds are generated through the academic units and the College's nationally recognized research centers such as the Human Performance Research Laboratory, and the Institute for the Study of Human Development that includes the Gerontology Center and the Center for the Study of Child and Adolescent Development.

The Deanship offers the opportunity and challenge to share in the shaping of a nationally recognized College that will establish the research and training base for a new era in health and human development. The Dean will facilitate interaction among scholars and teachers across a full range of health and human development disciplines, and will encourage an integrated multidisciplinary approach to the College's goals of promoting and developing a healthy, effective citizenry, and the prevention of illness and disability through its mission of teaching, research and service.

The successful candidate will be expected to possess:

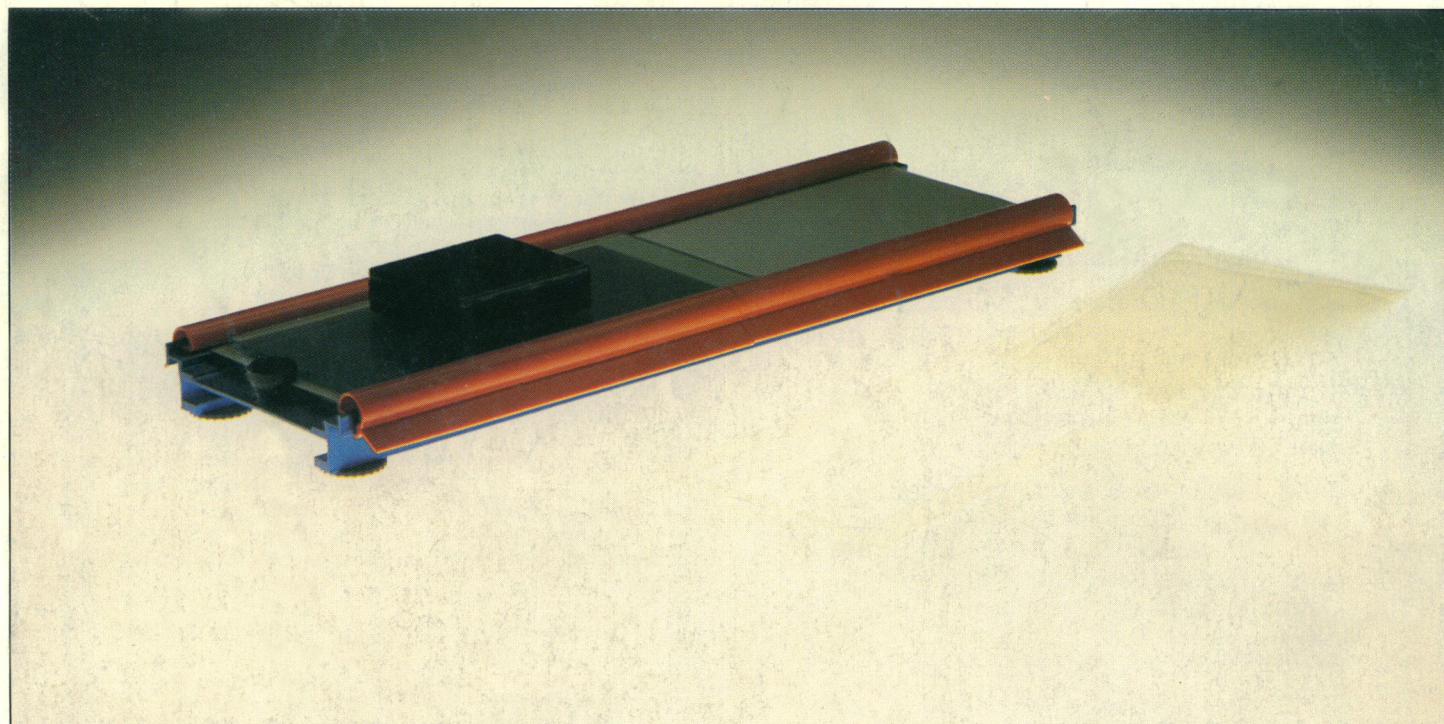
1. Demonstrated ability to set goals, motivate people, manage budgets, cultivate innovation and faculty productivity, and secure funds for research and development;
2. Prior experience at a significant level of responsibility for the administration of an academic organization;
3. Academic credentials appropriate for appointment as a tenured Professor within one of the programs in the College;
4. A commitment to the philosophy and responsibilities of a major, public research University.

In addition to the above criteria, the Search Committee places a high priority upon the qualities associated with intellectual leadership, imagination, achievement, and a strong commitment to research.

The Search Committee will begin to review applications in late August and continue to receive them until a candidate is selected. Nominations and letters of application accompanied by resumes and other supporting material should be submitted to:

Dr. G. Phillip Cartwright, Chairman
Health and Human Development Search
The Pennsylvania State University
Room 201 Old Main
University Park, Pennsylvania 16802

The Pennsylvania State University is an equal opportunity, affirmative action employer. We encourage applications from women and minorities.



Why buy the fastest gel casting system if you're short on time?

LKB's UltroMould™ is the fastest way to cast an electrofocusing gel. But if you want more productive results in even less time, you'll stop casting gels altogether.

There's a new alternative. A dried gel with an immobilized pH gradient. The Immobiline DryPlate™. You'll get very high resolution and sample load. Put an end to drift, conductivity gaps and batch variations. The Immobiline DryPlate offers you today's most advanced electrofocusing opportunities. With runs that give you more information, a technique with outstanding flexibility and a system that provides unrivalled value for money. Time and again.

Our new brochure tells you why. It also contains the unique User Electrofocusing Guide – an invaluable aid to improving your results. Naturally if you've got the time, we'll be happy to show you UltroMould casting gels faster than you ever thought possible. But if you're truly short on time, just get a copy of "Immobiline DryPlate™" – for modern electrofocusing.

Immobiline is a registered trademark of LKB-Produkter AB.



LKB-Produkter AB, Box 305, S-16126 Bromma, Sweden. Tel. 08-980040, telex 10492

Antwerp (03)2189335 · Athens-Middle East +30(1)8947396 · Beijing 890621 · Copenhagen (01)295044 · Hong Kong (852)5-555555 · London (01)6578822
 Lucerne (041)574457 · Madras (044)452874 · Moscow (095)255-6984 · Munich (089)85830 · Paris (01)64463636 · Rome (06)399033 · Stockholm (08)980040
 Tokyo (03)293-5141 · Turku (021)678111 · Vienna +43(222)921607 · Washington (301)9633200 · Zoetermeer (079)319201

Over 60 qualified representatives throughout the world.

Circle No. 3 on Readers' Service Card