

initio methods for interpreting nuclear magnetic resonance spectra of transition metal complexes, Tripathi and Smith compare experimental and theoretical results for the cross sections for x-ray and high-energy electron scattering from molecules, and Monkhurst discusses the utility of the geminal method for going beyond the standard one-electron basis sets used in most quantum chemistry approaches.

The papers in this book illustrate the wide range of problems that can be tackled with modern electronic structure methods. They should be useful to physical chemists and others working in the areas of molecular spectroscopy, structure, and reactivity. The book should be particularly valuable as a source of supplemental readings in graduate-level quantum chemistry courses.

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Interstellar Matter

Molecular Astrophysics. State of the Art and Future Directions. G. H. F. DIERCKSEN, W. F. HUEBNER, and P. W. LANGHOFF, Eds. Reidel, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). xxiv, 744 pp., illus. \$89. NATO Advanced Science Institutes Series C, vol. 157. From a workshop, Bad Windsheim, West Germany, July 1984.

In 1937 Dunham and Adams detected three absorption lines toward a star at optical wavelengths that were later identified as belonging to the CH radical and that provided the first evidence of an interstellar molecule. By 1940 two other molecules were identified optically, CH⁺ and CN. Despite numerous suggestions concerning other potential molecules in interstellar space, it was not until 1963 that another molecule, OH, was reported with the discovery of absorption at centimeter radio wavelengths. Within five years ammonia, water, and formaldehyde had been detected with radio techniques at centimeter wavelengths. Millimeter-wave radio astronomy developed about 1970 and led to the rapid discovery of many molecules in the interstellar medium, and today over 60 have been discovered.

The importance of these molecules goes way beyond the novelty of their detection or the curiosity of their existence in the hostile environment of interstellar space. They are unique, and often the only, probes of the physical and chemical conditions in a wide variety of astronomical objects. The objects and processes they have been used to study

include interstellar clouds in our Galaxy and in external galaxies, galactic structure, nucleosynthetic evolution in the Galaxy, protostars, circumstellar shells, star formation, stellar jets, comets, and astrophysical masers. Finally, through their absorption and emission of radiation, they can influence the thermal and ionization properties and the dynamical evolution of the objects in which they are found.

The study of astronomical objects through observations of molecules, or the modeling of the effects of the molecules on their environment, requires a detailed understanding of a wide variety of physical and chemical processes involving the reactions of molecules with radiation, atoms, and other molecules. In the low-temperature environment in which most molecules are found, optical studies have primarily been limited to absorption features. Such studies have therefore been restricted to those positions which happen to lie along a line of sight to a background star. The development of radio millimeter and submillimeter molecular astronomy has enormously expanded the studies of molecular clouds, galactic structure, and star formation because the molecules emit at radio wavelengths even at low temperatures. The radio telescopes can be used to map out the emission of the molecules and thus the structure of the entire object under study. Molecular processes and the observations of molecules in space are the subject of *Molecular Astrophysics: State of the Art and Future Directions*.

The book is divided into three parts, Astrophysical Observations and Models, Theoretical and Experimental Laboratory Studies, and Contributed Papers. The first two parts, which make up the bulk of the text, are a series of lectures by various investigators in different research areas. The first part could be used as an introduction to molecular processes in interstellar environments and the nature of molecular observations. It will be of particular value to graduate students and newcomers to the field. The longest lecture, by Rydbeck and Hjalmarson on radio observations, is one of the more interesting of its kind that I have read on this topic. The authors not only cover the history of the subject but explain many of the basic properties of molecules, molecular spectra, and their observational interpretation.

The second part of the book is much less general and requires a more specialized background on the part of the reader. It deals with laboratory and theoretical work on molecular spectra, ion-molecule reactions, photoprocesses, and collisional excitation. Here again, the general reader can learn much, although more effort is re-

quired. I found useful the lecture by Winnewisser *et al.* on spectroscopy and the discussion by Buck of rotational excitation in molecular beam experiments.

It is in the last section that the reader encounters examples of the state of the art in laboratory work. The highlight of this section is a pair of papers, by Rowe *et al.* and Böhringer and Arnold, discussing measurements of ion-molecule reactions at temperatures down to 8 K and 18 K, respectively. This development is crucial to understanding and modeling the chemistry of interstellar clouds, whose temperatures typically lie in the range 6 to 20 K. The authors found a number of reactions to have a temperature dependence in this range considerably different from that indicated by measurements above 80 K. For example, the reaction of the ammonia ion with molecular hydrogen is much larger at 8 K than at 100 K, which may be important for understanding the production of ammonia in interstellar clouds.

There are only a few contributions that do not live up to the high standards of the work as a whole, and even these contain useful discussions. A minor detraction from the volume is a small section on contributed oral papers consisting only of abstracts. I did not find these at all informative.

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Books Received

Alternatives to Animal Use in Research, Testing, and Education. Office of Technology Assessment, Washington, DC, 1986 (available from the Superintendent of Documents, Washington, DC). viii, 441 pp., illus. Paper, \$16.

Beatrice (Hill) Tinsley, 1941–1981, Astronomer. A Tribute in Memory of an Outstanding Physicist. Scott Whineray, Ed. Massey University and New Zealand Institute of Physics Education Committee, Palmerston North, 1985. 97 pp., illus. Paper, \$5.

Between Pacific Tides. Edward F. Ricketts, Jack Calvin, and Joel W. Hedgpeth. Revised by David W. Phillips. 5th ed. Stanford University Press, Stanford, CA, 1985. xviii, 652 pp., illus. \$29.50.

Beyond Analytic Philosophy. Doing Justice to What We Know. Hao Wang. MIT Press, Cambridge, MA, 1986. xii, 275 pp. \$17.50. A Bradford Book.

Biological Oxidation of Nitrogen in Organic Molecules. Chemistry, Toxicology and Pharmacology. John W. Gorrod and L. A. Damani, Eds. VCH, Deerfield Beach, FL, and Ellis Horwood, Chichester, England, 1985. 445 pp. illus. \$58. Ellis Horwood Health Science Series.

The Body. Anthony Smith. 3rd ed. Viking, New York, 1985. xii, 548 pp. \$25.

Chemotherapy of Parasitic Diseases. William C. Campbell and Robert S. Rew, Eds. Plenum, New York, 1986. xxviii, 655 pp., illus. \$79.50.

Chromatography and Separation Chemistry. Advances and Developments. Satinder Ahuja, Ed. American Chemical Society, Washington, DC, 1986. viii, 304 pp., illus. \$54.95. ACS Symposium Series, 297. Based on a symposium, Philadelphia, Aug. 1984.

(Continued on page 1562)

Dissolution Apparatus

Bio-Dis is a programmable dissolution tester that simulates gastrointestinal conditions. Bio-Dis moves pellets or tablets continually through the dissolution media approximating the rotating bottle method. Products in the Bio-Dis apparatus only come into contact with soft mesh screens as they move through the dissolution media, thereby simulating the soft, nonabrasive conditions found in the gastrointestinal tract. Bio-Dis features programmable, automated change of media that allows dissolution tests with sequential changes of pH without the manual transfer required with rotating bottle apparatus. Sequences up to 24 hours may be programmed. Six rows of six "outer tubes" contain the dissolution media in a thermostatically controlled transparent water bath. The pH in each row of outer tubes is established before testing begins. A program is then chosen to determine the time for each row. After each cycle, the "inner tube" containing the sample is raised and remains stationary above the outer tubes while the medium is drained. The six inner tubes holding the pellets then move to the next position and are lowered into the media to continue the test. The Bio-Dis apparatus is designed to give excellent correlation with the rate of release in humans for a wide variety of controlled-release products. Van-Kel Industries. Circle 588.

Northern and Southern Blot Analysis

Hybrid-Ease is a perfusable membrane support chamber for carrying out all steps of nucleic acid hybridization: prehybridization, hybridization, and stringency washing. Once a membrane is in place inside the chamber, it is not necessary to open the unit again until all steps are completed; thus the possibility of radioactive spills or damage to the membrane is reduced. Inside the chamber, more than 2000 "fingers" hold the membrane in place in such a way that solutions can wash over it equally on both sides;

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.

homogeneous, background-free autoradiograms are created. All solutions are added and withdrawn through two top-mounted on/off syringe fittings. Solution requirements in the Hybrid-Ease are low. The unit is normally decontaminated during the washing steps and requires no further decontamination. Hoefer Scientific Instruments. Circle 583.

Culture Storage Cabinets

Two vertical cabinets especially designed for culture storage are available. The cabinets (25 and 43 cubic feet) have a temperature range of from -26° to -43°C . The units feature foamed-in-place insulation, seal-tight inner compartment doors, triple gasketing, self-closing exterior doors with key locks, a 5-year compressor warranty, and automatic defrost. Accessories include a 7-day recorder for accurate product maintenance. Kelvinator Scientific. Circle 585.

Supercomputer Line

The T Series comprises a line which ranges from a work station-size Class VI machine up to the largest announced supercomputer. They are parallel processors based on the "hypercube" topology, which permits peak performance to be increased simply by doubling the number of individual processors and then connecting corresponding processors together with high-speed links. The T Series is modular; the smallest number processors is eight and the maximum number is 16,384. Each processor, or "node," is a complete computer, roughly equivalent in computing power to an FPS-364 front-ended by a superminicomputer. The peak arithmetic speed of a single node is 16 million floating point operations per second (MFLOPS) in full precision (64 bits), accompanied by control processing rated at 7.5 million instructions per second (MIPS). Each node has 1 Mbyte of high-speed memory and can directly access up to 1 Gbyte of disk storage. The specifications of larger systems are obtained by scaling these features by the number of nodes. The smallest model of the T series, the T/10, has eight nodes. It offers 128-MFLOP peak speed with 8 Mbyte of primary memory and up to 8 Gbyte of direct disk storage. The T Series has solved the problem of programming a massively parallel array of computers. Each node is controlled by a transputer, which is designed to execute the Occam programming language. Occam provides all the facilities for programming any set of

communicating processors. Occam is enhanced with a library of vector mathematical routines which efficiently exploit the arithmetic in the node. Floating Point Systems. Circle 595.

Refrigerator

A closed-cycle refrigerator for conductive sample cooling that provides temperatures below 4 K is available. The Heliplex HS-4 system, with a refrigeration capacity of 1.5 watts at 4.5 K and 1 watt at 4.2 K and an operating range of 3.6 to 300 K, provides the refrigeration capabilities of open-cycle refrigerators and much larger closed-cycle units. It is designed for use in research into superconductivity, neon matrix isolation, and spectroscopy. The closed-cycle Heliplex HS-4 can operate unattended for extended periods of time and requires no consumable cryogens. It incorporates dual compressors with its refrigeration unit. Two helium circuits supplied by the two compressors enter the refrigeration unit, with the heat of compression removed by water cooling. One stream is cooled at progressively colder stages in a Displex regenerative expander and returned to the first compressor unit. The second stream, the Joule-Thomson circuit, is successively cooled by the two external heat stations of the Displex expander and by its own stream after Joule-Thomson expansion at the 3.6 K cooling station. This stream then returns to the second compressor unit. Air Products and Chemicals. Circle 598.

Molecular Modeling

The MicroGRAF-4 combines a computer subsystem, a graphics work station, and proprietary Chem-X modeling software. The graphics work station is the SIGMEX 6164 which features 1448 by 1024 pixel resolution, eight buffered memory planes providing 256 simultaneous colors and the GKS international standard for graphics. The MicroGRAF-4 supports up to 12 users simultaneously. Chemical Design. Circle 597.

Literature

Vacuum Pump features the Vacumate, a nonelectric unit for applications where explosion-resistance is a prerequisite. Wheaton Instruments. Circle 593.

Liquid Chromatography offers a complete selection of columns, packings, and accessories. YMC. Circle 594.

(Continued from page 1560)

Circulation, Respiration, and Metabolism. Current Comparative Approaches. R. Gilles, Ed. Springer-Verlag, New York, 1985. xviii, 568 pp., illus. \$102. From a symposium, Liège, Aug. 1984. Proceedings in Life Sciences.

The Citadel of the Senses and Other Essays. Macdonald Critchley. Raven, New York, 1985. x, 277 pp., illus. \$29.50.

Cocaine. A Drug and Its Social Evolution. Lester Grinspoon and James B. Bakalar. 2nd ed. Basic Books, New York, 1985. xii, 340 pp. Paper, \$8.95.

Collected Essays on Public Health and Epidemiology. Rudolf Virchow. L. J. Rather, Ed. Science History Publications (Watson), Canton, MA, 1986. Two volumes. Vol. 1, xviii, 619 pp. Vol. 2, viii, 614 pp. The set, \$50. Resources in Medical History. Translated from the German edition (Berlin, 1879).

Environmental Impact Assessment, Technology Assessment, and Risk Analysis. Contributions from the Psychological and Decision Sciences. Vincent T. Covello *et al.*, Eds. Springer-Verlag, New York, 1985. x, 1069 pp., illus. \$127.50. NATO Advanced Science Institutes Series G, no. 4. From an institute, Bourgh-St.-Maurice, France, Aug. 1983.

Essai de Classification et de Cartographie Ecologique des Espaces. Pierre Dansereau. Laboratoire d'Ecologie Forestière, Université Laval, Quebec. 1985. xvi, 146 pp., illus. + loose plates. Paper, \$C15.

Evaluating Earthquake Hazards in the Los Angeles Region. An Earth-Science Perspective. J. I. Ziony, Ed. U.S. Government Printing Office, Washington, DC, 1985. xii, 503 pp., illus. Paper, \$24 (including postage). U.S. Geological Survey Professional Paper 1360.

The Ins and Outs of Peg Solitaire. John D. Beasley. Oxford University Press, New York, 1985. xii, 275 pp. \$16.95. Recreations in Mathematics.

Insulin. Its Receptor and Diabetes. Morley D. Hollenberg, Ed. Dekker, New York, 1985. xii, 318 pp., illus. \$85. Receptors and Ligands in Intercellular Communication.

Integral/Structural Polymer Foams. Technology, Properties and Applications. F. A. Shutov. G. Henrici-Olivé and S. Olivé, Eds. Springer-Verlag, New York, 1986. xxii, 295 pp., illus. \$76.

Living with the Bomb. Dorothy Rowe. Routledge and Kegan Paul, Boston, 1985. xii, 243 pp., illus. \$25; paper, \$7.95.

Numerical Methods in Quaternary Pollen Analysis. H. J. B. Birks and A. D. Gordon. Academic Press, Orlando, FL, 1985. viii, 317 pp., illus. \$59.

Orchid General Illustrated. Tom and Marion Sheehan. Comstock (Cornell University Press), Ithaca, NY, 1986. 207 pp., illus. Paper, \$14.95. Reprint, 1979 edition.

Organic Synthesis. An Interdisciplinary Challenge. Jacques Streith, Horst Prinzbach, and Gottfried Schill, Eds. Blackwell Scientific, Boston, 1985. viii, 335 pp., illus. \$47. From a symposium, Freiburg, West Germany, Aug. 1984.

Plasmids in Eukaryotes. Fundamentals and Applications. K. Esser *et al.* Springer-Verlag, New York, 1986. x, 124 pp., illus. Paper, \$16.95. Heidelberg Science Library.

Pollen Records of Late-Quaternary North American Sediments. Vaughn M. Bryant, Jr. and Richard G. Holloway, Eds. American Association of Stratigraphic Palynologists Foundation, Houston, 1985. xiv, 426 pp., illus. \$35.

Population Genetics and Molecular Evolution. Papers Marking the Sixtieth Birthday of Motoo Kimura. Tomoko Ohta and Kenichi Aoki, Eds. Japan Scientific Societies Press, Tokyo, and Springer-Verlag, New York, 1985. xviii, 503 pp., illus. \$44.50.

Practice of High Performance Liquid Chromatography. Applications, Equipment and Quantitative Analysis. H. Engelhardt, Ed. Springer-Verlag, New York, 1986. xii, 463 pp., illus. \$76.

Principles of Engineering Mechanics. Vol. 1, Kinematics—The Geometry of Motion. Millard F. Beatty, Jr. Plenum, New York, 1986. xviii, 396 pp., illus. \$49.50. Mathematical Concepts and Methods in Science and Engineering, vol. 32.

The Prolegomena to a 1985 Philosophiae Naturalis Principia Mathematica. Which Will Be Able to Present Itself As a Science of the True. Filmer Stuart Cuckow Northrop. Ox Bow, Woodbridge, CT, 1985. xvi, 73 pp. \$30.

The Scientific Basis of Antimicrobial Chemotherapy. D. Greenwood and F. O'Grady, Eds. Cambridge University Press, New York, 1985. x, 404 pp., illus. \$69.50. Symposia of the Society for General Microbiology, 38. From a symposium, Nottingham, England, Sept. 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.

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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. 6/20, 27; 7/4

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ASSISTANT DIRECTOR OF SUBSTANCE ABUSE MEDICINE (#03570)

A permanent position is open for someone to direct the research activities of an Academic Clinical Division of Substance Abuse Medicine at the Medical College of Virginia in Richmond, Virginia. The major responsibility of the successful applicant will be to expand the clinical research program of the division. A significant percentage of time will be used for administrative work. An opportunity exists for an academic appointment and collaborative research with substance abuse scientists in the Departments of Pharmacology, Psychiatry, and Medicine. Minimal qualifications are a doctoral degree and 4 years of postdoctoral experience in substance abuse research and a proven record of research productivity, grant-writing ability, and administration. Applications are also invited from more senior investigators with an established research program. Send a letter stating research goals and interest, a complete curriculum vitae, and the names, addresses, and telephone numbers of three references to: **Dr. William D. Lerner, Director, Division of Substance Abuse Medicine, c/o MCVH Department of Personnel, Box 66/MCV Station, Richmond, Virginia 23298. Equal Opportunity/Affirmative Action Employer.**

ASSISTANT DIRECTOR—TOXICOLOGY LABORATORY. The Neurology Toxicology Laboratory, Georgetown University School of Medicine, seeks a Ph.D. toxicologist-pharmacologist. Applicants must have interest and experience in analytic toxicology and pharmacokinetics. In addition to technical supervision of routine analytic activities in the laboratory, active participation in research programs is required. The assistant director also holds an academic position in the School of Medicine, rank being determined by the qualifications and experience of the candidate. Applicants should send their curriculum vitae and three letters of recommendation to:

Dr. Stanley Cohan
Department of Neurology
Georgetown University Hospital
3800 Reservoir Road, NW
Washington, DC 20007

The Department of Physiology and Biophysics of the University of Texas Medical Branch, at Galveston, invites applications for several tenure-track positions at the **ASSISTANT, ASSOCIATE AND PROFESSOR LEVELS**, starting as early as 1 August 1986. Candidates must have Ph.D. and/or M.D. degrees. Individuals with demonstrated competence in physiologic studies at the cellular, subcellular, and molecular levels will be preferred, especially if they employ novel biophysical and/or biochemical/molecular approaches. Salaries and start-up funds are competitive. The department offers a stimulating scientific environment and is deeply committed to high-quality research and teaching. Junior candidates must have at least 2 years of productive postdoctoral training, as evidenced by publications in high-quality, peer-reviewed journals, and are expected to initiate independent research programs. Send complete curriculum vitae, including publications list, brief statements of future research plans, and names and addresses of three references to: **Dr. Luis Reuss, Department of Physiology and Biophysics, University of Texas Medical Branch (UTMB), Galveston, TX 77550. UTMB is an Equal Opportunity/Affirmative Action Employer.**

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For further information contact:

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National Institutes of Health
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AN EQUAL OPPORTUNITY EMPLOYER

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The National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) invites nominations and applications for the position of Chief, Surgical Neurology Branch (SNB), Intramural Research Program (IRP). This is a Civil Service position in the Senior Executive Service with a salary range of \$61,296 to \$68,700 per annum. The person selected may be eligible for Physician's Comparability pay up to \$10,000 per year. A one-year probationary period must be served by the individual selected if not currently in the Senior Executive Service.

The Chief, Surgical Neurology Branch provides technical and administrative direction and leadership to the Institute's clinical and research program in surgical neurology and serves as the focal point within the Federal sector, the scientific community, and the public for these activities.

Candidates must meet the minimum educational requirements for Medical Officer, GS-602 (or equivalent combination of experience and training), as defined by the U.S. Office of Personnel Management Handbook X-118, Qualification Standards for Positions under the General Schedule. This information is available in Federal Personnel Offices and Federal Job Information Centers. Further information about the position and qualifications requirements may be obtained by contacting Ms. Janet Follin at 301-496-6334. A Personal Qualifications Statement (SF-171), accompanied by a current curriculum vitae and bibliography should be submitted to:

Ms. Janet E. Follin
NINCDS Personnel Office
Building 31, Room 8A23
National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20892.

APPLICATIONS MUST BE POSTMARKED NO LATER THAN
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ALL QUALIFIED CANDIDATES WILL RECEIVE CONSIDERATION WITHOUT REGARD TO RACE, RELIGION, COLOR, SEX, AGE, NATIONAL ORIGIN, LAWFUL POLITICAL AFFILIATION, MARITAL STATUS, UNION MEMBERSHIP, OR ANY NONDISQUALIFYING PHYSICAL OR MENTAL HANDICAP.

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Biologist/Chemist

Battelle, Pacific Northwest Laboratories is seeking applications from Biologists and Chemists to fill two positions for our Marine Sciences Laboratory in Sequim, Washington.

Biologist

The biologist will participate in or lead interdisciplinary studies to determine fate and effects of xenobiotics in estuarine and coastal marine ecosystems. Applicants should possess a good working knowledge of both chemical analytical and biological research approaches (including bioassay). Preference will be given to applicants demonstrating understanding of important biochemical, physiological, or behavioral mechanisms relating to organism response (particularly adaptive response) to toxic substances or environmental perturbations.

The successful candidate will have strong academic credentials, experience in designing and conducting interdisciplinary research, commitment to a high level of quality assurance/quality control, and a proven background in technical writing. The successful candidate will also have a PhD in marine biology (zoology, fisheries biology, or biological oceanography) and at least five years' relevant experience (including postdoctorate).

Marine Organic Chemist

The marine organic chemist will participate in or lead research studies to determine environmental fate (disposition, metabolism) of xenobiotics in coastal ecosystems. Chemical analytical support for marine toxicology programs is also involved. The successful candidate will have strong academic credentials, experience in designing and conducting interdisciplinary research, commitment to a high level of quality assurance/quality control, and a proven background in technical writing.

Responsibilities will include development of methods for analysis in xenobiotics in marine/estuarine water, sediments, and biological samples, and separation and identification of metabolites utilizing HPLC, GC, and GC/MS techniques. Marketing of analytical capabilities to clients, preparation of proposals, and the supervision of project staff are additional responsibilities. The successful candidate will have a PhD or equivalent in marine chemistry (organic geochemistry or bioanalytical chemistry acceptable), and at least five years' relevant postdoctorate experience.

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Reply in confidence with detailed resume and salary requirements to: **Mr. C.J. Mitchell, Professional Employment, Battelle-Northwest, P.O. Box 999, Richland, WA 99352.**

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Two tenure-track faculty positions in the above mentioned areas are available in the Department of Pharmacology and Toxicology at the University of Mississippi Medical Center in Jackson.

Candidates must have at least 2 years of postdoctoral training and a record of research accomplishment. The candidates should be committed to developing strong, independent, fundable research programs and to participate in medical, dental, and graduate teaching in one of the above areas. A complete curriculum vitae, including a brief statement of research interests, and three letters of recommendation should be sent to:

Dr. I. K. Ho
Professor and Chairman
Department of Pharmacology and Toxicology
University of Mississippi Medical Center
Jackson, Mississippi 39216-4505

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ASSISTANT OR ASSOCIATE PROFESSOR OF ANATOMY

The Department of Anatomy invites applications for a tenure-track position in the broad area of developmental neurobiology to commence on or about 30 October 1986. Candidates should have an M.D. and/or Ph.D. degree and must have demonstrated excellence in their area of research. Candidates will be expected to contribute to the department's teaching which includes courses in the various anatomical disciplines, including gross anatomy, at both the undergraduate and graduate levels. The appointment shall be made by an interdisciplinary committee in neurobiology primarily on the basis of research experience and accomplishments. To apply, please send your curriculum vitae and the names of three or more references to: **Dr. M. J. Hollenberg, Chairman, Department of Anatomy, Medical Sciences Building, University of Toronto, Toronto, Ontario, Canada, M5S 1A8.**

CLOSING DATE FOR APPLICATIONS IS
30 AUGUST 1986

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

The University of Toronto encourages both women and men to apply for positions.

ASSISTANT PROFESSOR OF PHARMACOLOGY

The Department of Pharmacology of the East Carolina University School of Medicine invites applications for a tenure-track position at the assistant professor level. Specific areas of interest to the department include toxicology or drug metabolism. Applicants should have the Ph.D., M.D., Ph.D./M.D., 2 years of relevant postdoctoral training and be committed to develop or continue an active research program. Applicants are requested to submit curriculum vitae, three letters of reference, and a written statement on present and future interests by 30 September 1986 to: **Dr. W. R. Wooles, Chairman, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27834.**

East Carolina University is an Equal Opportunity/Affirmative Action Employer.

BIOPHYSICIST AND/OR PHOTOBIOLOGIST, Ph.D./M.D. Three to 5 years of experience in a research environment minimum. Work in biomedical laser applications preferred. Strong knowledge of tissue culture techniques required. **Postdoctoral fellow** in biophysics studying muscle proteins and laser effects. Studies to use free electron laser technology. Send résumés to: **Baylor Research Foundation, 3600 Gaston Avenue, Suite 1203, Dallas, TX 75246,** by 27 June 1986. *Baylor Research Foundation is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR-Reproductive Immunologist. Tenure-track position. Ph.D. degree in immunology, microbiology, biochemistry, or cell biology required. Evidence of research productivity, ability to secure extramural funding, and willingness to work in concert with small and primarily clinical faculty desired. Submit by 31 July 1986 curriculum vitae and names of three references to: **Dr. Daryl Buss, Search Committee Chair (Position VM-8604), Box J-144, JHMH, College of Veterinary Medicine, University of Florida, Gainesville, FL 32610-0144.** *The University of Florida is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT RESEARCH PROFESSOR CARDIO-THORACIC SURGERY

Applicants are invited for an assistant research professorship (nontenured track) available commencing 1 August 1986. Applicant should have postdoctoral experience in some area of cardiovascular research. Level of salary commensurate with education and experience and is guaranteed for at least 3 years. The applicant will be expected to participate in on-going research, but will be allowed opportunity to develop independent programs and grant support. Applicant should submit a letter of application, curriculum vitae, and names of three individuals to serve as references.

Reply to: **Edward P. Todd, M.D., Ph.D., Professor and Chairman Division of Cardiovascular and Thoracic Surgery, University of Kentucky, Lexington, KY 40536-0084.**

The university is a Nondiscriminatory/Affirmative Action Employer.

ASSOCIATE CHIEF OF STAFF/EDUCATION: Vacancy exists at the Olin E. Teague Veterans' Center, Temple, Texas. Candidates must be Board-certified and have experience and demonstrated competence in administration, teaching, and related scholarly activity. Affiliated with Texas A&M University (TAMU) School of Medicine. Faculty appointment available commensurate with education and experience. Temple is located in sunny central Texas and has many cultural and recreational advantages. Ready access to major metropolitan areas. Submit curriculum vitae to: **ACOS/Ambulatory Care, Olin E. Teague Veterans' Center, Temple, TX 76701; telephone: 817-778-4811, extension 4304.**

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.

COLLEGE TEACHER OF BIOLOGY

Tenure-track position available late August, 1986. Ph.D. required. Specialization in one or more of the following: anatomy, physiology, histology, embryology, genetics, and botany. Adeptness in teaching beginning college students in introductory biology courses. Willingness to work closely with students in laboratory oriented courses. Apply as soon as possible to: **Dr. Susan Smith Batell, Dean of Academic Affairs, College of Saint Teresa, Winona, Minnesota 55987.** *Minorities and women encouraged to apply. Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

UNIVERSITY OF LIVERPOOL CHAIR OF MEDICAL CELL BIOLOGY

Applications are invited for the chair of medical cell biology in the new merged Department of Human Anatomy and Cell Biology. The chair will become vacant in October 1986, following the appointment of Professor C. R. Hopkins to the rank chair of physiological biochemistry at Imperial College, London. The university has an established research reputation in medical cell biology and the successful candidate will be expected to sustain and enhance this reputation.

Informal enquiries concerning this chair should be made to: **Professor Bernard Wood in the New Department Telephone: 051-709-6022 extension 2403.**

The salary will be within the range approved for non-clinical professorial salaries, currently not less than £19,918 per annum (under review).

Applications, together with the names of three referees, should be received not later than 31 July 1986 by: **The Registrar, The University, P.O. Box 147, Liverpool, England L69 3BX,** from whom further particulars may be obtained.

CLINICAL IMMUNOLOGIST

The Virginia-Maryland Regional College of Veterinary Medicine invites applications for a tenure-track faculty position in veterinary clinical immunology. The appointee will be required to teach clinical immunology and its applications in dermatology to veterinary students, supervise the clinical immunology laboratory, develop a productive research program in a specialized area of immunology, and participate in the training of graduate students.

Preference will be given to candidates holding a D.V.M. (or equivalent) and a Ph.D. with research interest in immunology and, preferably, in immunological aspects of dermatology.

Applications should include a current curriculum vitae, together with a letter outlining teaching, research and clinical experience, and future goals. The names and addresses of three people who will provide letters of reference should be included. Candidates from academic and non-academic sectors are encouraged to apply. Academic rank and salary will be negotiated in relation to background and experience.

Closing date for application is 1 September 1986. Starting date to be negotiated.

Apply to: **Dr. Donald O. Cordes**
Chairman, Search Committee
Virginia-Maryland Regional College
of Veterinary Medicine
Virginia Tech
Blacksburg, VA 24061

VETERINARY BACTERIOLOGIST

The Virginia-Maryland Regional College of Veterinary Medicine invites applications for a tenure-track faculty position in veterinary bacteriology. The appointee will be required to participate in the teaching of clinical bacteriology and infectious diseases to veterinary students, supervise the clinical bacteriology laboratory, develop a productive research program in a specialized area of bacteriology, and assist in the training of graduate students.

Preference will be given to candidates holding a D.V.M. (or equivalent) and a Ph.D. and/or Board-certification or equivalent qualification in microbiology and research interest in pathogenesis of bacterial infection.

Applications should include a current curriculum vitae, together with a letter outlining teaching, research and clinical experience, and future goals. The names and addresses of three people who will provide letters of reference should be included. Candidates from academic and non-academic sectors are encouraged to apply. Academic rank and salary will be negotiated in relation to background and experience.

Closing date for application is 1 September 1986. Starting date to be negotiated.

Apply to: **Dr. Donald O. Cordes**
Chairman, Search Committee
Virginia-Maryland Regional College
of Veterinary Medicine
Virginia Tech
Blacksburg, VA 24061

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

**CHAIR
DEPARTMENT OF PHYSIOLOGY
SCHOOL OF MEDICINE
UNIVERSITY OF CALIFORNIA,
LOS ANGELES (UCLA)**

The Department of Physiology is seeking a distinguished and able scientist to serve as chair. Applications and nominations are invited. The appointment is to be effective 1 July 1987. Applicants should have a record of significant research accomplishment and a strong commitment to medical and graduate education. Applications including curriculum vitae, and names of references or nominations should be sent to:

Physiology Search Committee
c/o Sandra Phillips
Dean's Office
UCLA School of Medicine
Los Angeles, CA 90024

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

CHAIRMAN OF OPHTHALMOLOGY

**Harvard Medical School
Massachusetts Eye and Ear
Infirmary**

Harvard Medical School and Massachusetts Eye and Ear Infirmary are seeking a professor and chairman of the Department of Ophthalmology and chief of the Ophthalmology Service.

Among the chairman's major responsibilities are the care of patients; instruction and supervision of students, residents, and fellows; and the development of basic and clinical research programs.

Please send curriculum vitae to: **The Chairman of the Ad Hoc Committee To Search for a Professor of Ophthalmology, Alexander Leas, M.D., Department of Preventive Medicine, Massachusetts General Hospital, Boston, MA 02114.**

Massachusetts Eye & Ear Infirmary, 243 Charles Street, Boston, MA 02114.

An Equal Opportunity Employer.

CHAIRPERSON, PATHOLOGY DEPARTMENT, University of California (UCSF), San Francisco. A search committee has been established at UCSF to recommend the appointment of an individual to serve as professor/chairperson of pathology. Direct inquiries and curriculum vitae to: **Harold Varnus, M.D., Professor of Microbiology, c/o C. Gerhardt, Dean's Office, University of California, San Francisco, CA 94143-0410.** *UCSF is an Affirmative Action/Equal Opportunity Employer. Minorities and women encouraged to apply.*

UNIVERSITY OF MASSACHUSETTS DIRECTOR OF BIOTECHNOLOGY PROGRAM

The University of Massachusetts at Amherst invites applications for a **DIRECTOR** of its new **BIOTECHNOLOGY PROGRAM**. The director is expected to coordinate the activities of faculty members working in the university biotechnology program, represent the interests of the biotechnology faculty to the university administration, develop new funding sources, and promote cooperation among biotechnology faculty and with private industry. The director will be expected to conduct his/her own research. The position is open now. Applicants should have a distinguished record of research accomplishment and a position of leadership in an area of molecular or cellular biology and/or biotechnology. Appointment will be made at the senior faculty level. Salary will be commensurate with qualifications and experience. The choice of departmental affiliation is open. Applications or nominations including the candidate's curriculum vitae, a current list of publications, and the names of at least three referees should be sent to: **Dr. George Agrios, Search Chairman, Fernald Hall, University of Massachusetts, Amherst, MA 01003. Telephone: 413-545-2280.** Applications will be accepted until 31 August 1986. *An Affirmative Action/Equal Opportunity Employer.*

Senior Research Scientist Microbiology

Investigate the strong resources and professional environment at Becton Dickinson

BBL Microbiology Systems, a division of Becton Dickinson, a billion dollar health care company, is a world leader in pioneering the development of microbiological and immunological diagnostic products and devices.

We have a high priority opening for a Senior Research Scientist to be responsible for conducting research, development and evaluation of designated immunoassays using particle and non-particle techniques. Will also supervise serology personnel and adherence to standards and directives. You should have a PhD in Immunology, Microbiology, Virology or related field, and at least 3 years postdoctoral or industrial experience in immunoassays, tissue culture propagation of viruses and/or parasites, and in ELISA and other colorimetric immunoassays.

We offer a fully commensurate salary, excellent benefits, and prospects for recognition and advancement. Please send confidential curriculum vitae with salary history to: Human Resources Manager, BBL Microbiology Systems, Division of Becton Dickinson, P.O. Box 243, Cockeysville, Maryland 21030. An equal opportunity/affirmative action employer.

Caring for people is our business

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THE FIRST WORD IN... IMMUNOASSAY BASED DIAGNOSTICS

The Diagnostics Division of Abbott Laboratories has achieved the world leadership position through the success of our product development efforts. Paramount to this success has been the introduction of medical diagnostics utilizing immunoassay based tests. As we continue our aggressive R&D projects, this position for an Immunologist will provide an important resource.

IMMUNOLOGIST

This position will coordinate a small group in developing novel immunoassay test systems and concepts for relevant tests. You will also explore market areas, and assure the development of the necessary instrument systems and manufacturing processes for immunoassay systems.

The qualified candidate will have a minimum of 6 years postdoctoral experience in eliciting antibodies and in immunochemical technique. Your broad base of experience in immunochemical applications should include infectious diseases, microbiology, and virology. An ability to relate well with multiple levels among a variety of disciplines will be necessary.

In addition to a superior scientific environment, Abbott offers an excellent salary and benefits package which includes stock retirement and profit sharing plan. We are headquartered in an attractive suburban community just 30 miles north of Chicago on the Lake Michigan shoreline. For confidential consideration, please send a current resume with salary history to: **Sue Hart-Wadley/Corporate Placement.** Abbott is an Affirmative Action Employer.

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CHROMATOGRAPHY SPECIALISTS

The PQ Corporation, an international manufacturer of industrial and specialty chemicals, has 2 excellent career opportunities in support of chromatographic products development.

MARKET DEVELOPMENT- PROJECT MANAGER

Position responsibilities are:

- Determine product needs for drug, chemical, biotechnology markets.
- Determine with R&D technical program goals. Coordinate joint technical marketing programs.
- Develop and execute marketing and market entry strategies
- Build a profitable base of sales.

Successful candidate must have a minimum of 5 years combined experience in R&D (chromatographic sciences) and marketing of separation products.

SENIOR CHEMISTS

Position responsibilities are:

- Improve existing and develop new chromatographic products.
- Evaluate silica products for suitability in chromatographic applications.
- Work closely with market development and customers.

Both positions require an advanced degree in chemistry, plus a minimum 5 years related chromatographic experience. A PhD is highly desirable. Positions are located in Northwest Suburban Philadelphia.

PQ offers a competitive salary, comprehensive benefits and relocation assistance. Qualified applicants should send detailed resume to, Mr. J.R. Newby at:



The PQ Corporation

Dept. SM
P.O. Box 840
Valley Forge, PA 19482

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DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE NATIONAL INSTITUTES OF HEALTH NATIONAL HEART, LUNG, AND BLOOD INSTITUTE DIRECTOR, DIVISION OF HEART AND VASCULAR DISEASES

Opening Date: June 11, 1986/Closing Date: July 14, 1986
(All applications must be post-marked by the closing date.)

The National Heart, Lung, and Blood Institute is recruiting a Director for its Division of Heart and Vascular Diseases. The Director will coordinate the planning, management, and evaluation of a major program of basic and targeted research, clinical trials, and national cardiovascular centers. The Division itself is divided into two major programs, with a staff of approximately 72 employees and a current annual budget in excess of \$300 million.

This is a Civil Service position in the Senior Executive Service (SES), with base salary from \$61,296 to \$68,700 per year depending on qualifications. SES members are eligible for various bonuses and awards, and physicians are eligible for payments of up to \$10,000 per year, although total compensation cannot exceed the rate for Executive Level I (currently \$86,200 per year). (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) The SES individual selected, if not presently in the Senior Executive Service, must serve a one year probationary period. Mandatory professional/technical qualifications are a medical doctorate, and research and/or clinical experience in the field of cardiology or cardiovascular diseases.

Mandatory managerial/executive qualifications include evidence of management of a basic or clinical research program, demonstrating ability to assume leadership responsibilities in developing program goals; representing the program to outside groups; directing program planning, execution, and evaluation; and conducting a fair and equitable employment program, including the attainment of EEO objectives.

Candidates who meet the mandatory qualifications will be further evaluated by the Search Committee on the degree to which they exceed the minimally qualified level of the mandatory managerial/executive qualifications, and on the following desirable qualifications: scientific reputation/peer recognition, training and education in cardiology or cardiovascular diseases beyond the M.D. degree, leadership of a basic or clinical research, or research administration program, and honors and awards indicative of outstanding contributions to the field of cardiology or cardiovascular diseases.

Application forms may be obtained from and should be returned with a Curriculum Vitae and Bibliography to:

Donna A. Brooks, Personnel Management Specialist
Building 31, Room 5A32
National Institutes of Health
National Heart, Lung, and Blood Institute
9000 Rockville Pike
Bethesda, Maryland 20892

Additional information may be obtained from:

Dr. Suzanne Hurd
Chairman, DHVD Director Search Committee
Westwood Building, Room 6A16
National Institutes of Health
National Heart, Lung, and Blood Institute
5333 Westhard Avenue
Bethesda, Maryland 20892
(301) 496-7208

AN EQUAL OPPORTUNITY EMPLOYER

VICE PRESIDENT

UNIVERSITIES RESEARCH ASSOCIATION

Nominations and applications are invited for the position of Vice President of Universities Research Association, Inc.

Universities Research Association (URA) is a consortium of 56 major research universities engaged in the management of the Fermi National Accelerator Laboratory, and the R&D and conceptual design phase of the Superconducting Super Collider, under contract with the U.S. Department of Energy. It is organized as a membership corporation with corporate offices in Washington, D.C.

The Vice President is elected annually by the URA Board of Trustees and reports to the President of the Corporation.

His responsibilities involve participation with the President in policy development and general management of URA affairs. He also serves as corporate Secretary.

His duties are those normally associated with the positions of corporate Vice President and Secretary. They include planning and coordination in support of the URA Council of Presidents, Board of Trustees, and Board of Overseers; management guidance and review of Laboratory and Central Design Group activities; administration of the contract with the Department of Energy; and liaison with the university and science communities.

The candidate should have an advanced degree in engineering or science, and/or a record of accomplishment in the management of research.

The salary is negotiable.

The position will become available in the last quarter of 1986.

Applications or nominations should be directed to:

Dr. Edward A. Knapp, President
Universities Research Association
1111 19th Street, N.W.
Washington, D.C. 20036

Universities Research Association, Inc. is an Equal Opportunity Employer.

ENGENICS

ENGENICS is a **BIOPROCESS DEVELOPMENT COMPANY** committed to international leadership in providing innovative and economic processes and systems for making, purifying and using a wide range of biologically-derived materials.

ENGENICS, located on the San Francisco Peninsula, has immediate openings for highly qualified professionals in the following areas:

MICROBIAL PHYSIOLOGIST/GENETICIST:

The qualified individual must have a minimum of 3 years research experience in addition to a BS or MS degree in Microbial Physiology and/or Microbial Genetics. A strong background in Biochemistry is also required for this position. Additional experience in molecular biology or yeast genetics is desired.

MOLECULAR BIOLOGIST: The qualified individual must have a BS or MS degree plus a minimum of 3 years research experience concentrating on the expression of foreign genes in bacterial and/or yeast strains.

FERMENTATION MICROBIOLOGIST: The qualified individual must have a BS degree in Microbiology and at least 2 years experience running microbial fermentations.

If you would be challenged by an entrepreneurial, results-oriented position with an excellent salary and benefits package, including an opportunity for equity participation, please send your resume immediately to:

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3760 Haven Avenue
Menlo Park, California 94025

The Liposome Company, Inc.,

is a biomedical technology firm specializing in advanced drug delivery systems with an emphasis on liposome and lipid based carriers.

Scientist

We are seeking a recent Ph.D. in the biological sciences, preferably in biochemistry, cell biology or membrane biophysics, for a challenging position reporting directly to the vice chairman and chief scientific officer. Candidates should have **no more than** four years postdoctoral experience, and must be self motivated, energetic and capable of independent work. Excellent experience for a scientist flexible enough to tackle a **variety** of important assignments. Applicants should forward curriculum vitae, selected reprints and names of three references to:

Ms. Lee Buccheri, Adm. Supervisor
The Liposome Company, Inc.
One Research Way
Princeton, NJ 08540

Equal opportunity employer

THE **Liposome**
Company INC.

Developer, manufacturer and marketer of lipid based pharmaceutical products.

ASSOCIATE EDITOR SCIENCE MAGAZINE

Editorial position available for a Ph.D. inorganic chemist, physical chemist, or solid-state physicist with two or three years of research experience; wide general interest in science and instrumentation; and publications in the refereed literature. The successful candidate's initial duties will include editing manuscripts for clarity and style. Progress to wide responsibilities in manuscript selection is expected. Previous editorial experience not required. This is a full-time position in our Washington editorial office. Please submit résumé with cover letter, including salary requirements, to:

Carolyn Bell
SCIENCE Magazine
1333 H Street, NW
Washington, D.C. 20005

Equal Opportunity Employer

CARDIOVASCULAR DEPARTMENT MANAGER

The Pharmaceutical Research and Development Division of Rorer Group Inc., located in Fort Washington, PA, a suburb of Philadelphia, has an immediate opening for a pharmacologist with 5 to 10 years post doctoral experience to head its new Cardiovascular Research Group. The successful candidate will possess a PhD in Pharmacology or a related discipline, have a good publication record, possess good managerial skills, and be interested in drug discovery with emphasis at both the physiological and biochemical levels.

We offer a competitive salary, fully paid benefits package, pleasant working conditions and the opportunity for professional growth. Qualified candidates should submit a resume including salary history to **Barbara Lippman, Rorer Group, Inc., Pharmaceutical R&D Division, 500 Virginia Drive, Fort Washington, PA 19034.** An equal opportunity employer, M/F.



Rorer Group Inc.

Pharmaceutical R & D Division

POSITIONS OPEN

DIRECTOR OF CLINICAL MEDICINE (SENIOR INVESTIGATOR)

Immediate need for a research based physician with extensive malaria patient experience. Will be responsible for all aspects of the clinical/field trials of malaria vaccines, including but not limited to protocol development, monitoring, and related clinical backstopping. Should have experience in the conduct of clinical investigations in a developing country setting and will require an in-depth knowledge of FDA regulations regarding the phased clinical testing of new drugs and vaccines. Will be the primary liaison for U.S. Agency for International Development with various organizations concerned with malaria vaccine clinical/field trials, including WHO, PAHO, FDA, and others. Field experience with human malaria is required. Submit complete résumé and three references to: **The American Institute of Biological Sciences, 1800 North Kent Street, number 930, Arlington, Virginia 22209.**

FACULTY-BIOLOGY (\$17,000 to \$25,000). CHEYNEY UNIVERSITY is seeking qualified applicants for three positions as professors of biology. These positions are: **MARINE BIOLOGIST:** Responsibilities include the teaching of ecology, ichthyology, marine biology, and other biology courses as assigned. The selected applicant will be expected to enhance the marine biology programs by aggressive student recruitment, program development including extensive student exposure to MARINE SCIENCE CONSORTIUM stations, and quality research proposals and projects. **DEVELOPMENTAL BIOLOGIST:** Responsibilities include teaching vertebrate histology, embryology, and other biology courses as assigned, as well as conducting student involved research proposals and projects. The selected applicant will be expected to serve in related assignments such as committees, and so forth. **BIOSTATISTICIAN:** Responsibilities include teaching biostatistics with computer applications and other biology courses as assigned. In addition to expected student involved research, the selected applicant will be expected to develop and conduct student/faculty workshops and other programs involving the microcomputer laboratory. Demonstrated experience with biostatistics, research, and microcomputers is required for this position. All three positions require a Ph.D. in biology or equivalent and at least 3 years of teaching experience. Send all application information including official transcripts of all graduate work to: **Biology Search, Mr. Patrick Walker, Wade Wilson Building, CHEYNEY UNIVERSITY, Cheyney, PA 19319**, postmarked not later than 30 June 1986. *Cheyney University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

FACULTY POSITIONS

The Department of Biochemistry at the University of Medicine and Dentistry of New Jersey-Rutgers Medical School has three senior and four junior faculty positions available beginning 1 July 1986. Applications are welcome from persons with an outstanding potential for research in the molecular biology and biochemistry areas, with a talent for teaching. Send complete curriculum vitae with reprints, research interests, and names of three references to: **Dr. Masayori Inouye, Chairman, Department of Biochemistry, UMDNJ-Rutgers Medical School, P.O. Box 101, Piscataway, NJ 08854.** *An Equal Opportunity/Affirmative Action Employer, M/F/H/V.*

HEAD, PROTEIN MICROSEQUENCING LABORATORY

The New York State Institute for Basic Research in Developmental Disabilities is seeking a **protein chemist** to head a protein microsequencing laboratory. The responsibilities include collaborating with other scientists on structural studies of neuronal proteins and peptides. The candidate must have an active research program, preferably oriented toward neurochemistry, and must have demonstrated ability to obtain research support. Rank and salary will be determined by experience and qualifications. Send curriculum vitae to: **Dr. David L. Miller, Head, Molecular Biology Department, New York State Institute for Basic Research in Developmental Disabilities, 1050 Forest Hill Road, Staten Island, NY 10314.**

POSITIONS OPEN

FACULTY POSITION

The Division of Gerontology and Geriatrics at University of Alabama, Birmingham (UAB) invites applications for a faculty member to work with its teaching, research, and community service programs. Must be well-qualified and experienced in planning and conducting multidisciplinary research projects, working with community-support groups, and developing and teaching relevant courses for medical and other health science professions students and trainees.

Apply to: **Department of Medicine/Chairman's Office, University of Alabama at Birmingham, University Station, Birmingham, AL 35294, Attention: Dr. James E. Lewis.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS IN MOLECULAR BIOLOGY

The Molecular Biology and Virology Program at Sloan-Kettering Institute and the Sloan-Kettering Division of the Cornell University Graduate School of Medical Sciences is seeking applications from molecular biologists, developmental biologists, and structural biologists for several tenure-track faculty positions. The potential recruit should be using modern genetic, molecular biological, and biochemical techniques to study problems in the general area of prokaryotic and eukaryotic cellular or viral gene expression and gene replication. The specific rank of appointment will be commensurate with the candidate's experience and achievements. This is a rapidly expanding program consisting of 20 independent faculty members with diverse research interests who are committed to basic research and the training of graduate students. Please submit your curriculum vitae, present and future research plans, and names of at least three references to: **Dr. Jerard Hurwitz, Sloan-Kettering Institute, 1275 York Avenue, New York, NY 10021.**

FACULTY POSITION IN PARASITOLOGY

The New York State College of Veterinary Medicine, Cornell University, is seeking an **assistant or associate professor** for a tenure-track position in veterinary parasitology. The individual must hold a D.V.M. or equivalent and/or Ph.D. degree, be a conscientious and enthusiastic teacher, and have demonstrated exceptional ability as a creative and productive research scientist in the originality and quality of his or her refereed publications.

The individual appointed will be expected to assume responsibility for approximately half of the instruction in parasitology offered to second year veterinary students and to contribute to the program of graduate instruction in parasitology. Ability to develop and execute independent research should be combined with a willingness to collaborate with other faculty in achieving defined goals in veterinary parasitology research. Rank and salary commensurate with qualifications and experience. Send curriculum vitae, reprints of five published articles, and the names of five referees to: **Professor Jay R. Georgi, Department of Microbiology, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853.**

Cornell University is an Affirmative Action/Equal Opportunity Employer/Educator.

IN-VITRO FERTILIZATION

We need a laboratory director to join our IVF group in Reading, Pennsylvania, 60 miles from Philadelphia and within commuting distance of Philadelphia suburbs. Experience in a graduate degree or IVF program with cell culture, embryo and sperm monitoring techniques necessary. Must be an independent take-charge person with graduate degree or bachelors degree with significant experience and ability to interface with physicians and patients. Excellent salary, fringe benefits, working atmosphere, and room for professional growth. Please contact:

Dr. Vincent Pelligrini
Reading Hospital and Medical Center
Sixth Avenue and Spruce Street
West Reading, PA 19611
Telephone: 215-374-2214

POSITIONS OPEN

FACULTY POSITION, VIROLOGIST. Tenure-track, academic year appointment, assistant professor, starting September 1986 (preferably) or January 1987. Teach general and graduate virology and share general and medical microbiology. Supervision of M.S. and Ph.D. students. Active research and pursuit of funding expected. Research interest in molecular virology preferred. Postdoctoral experience required. Review begins 15 August 1986 and continues until position is filled. **Department of Microbiology/Search, University of Montana, Missoula, MT 59812.** *Affirmative Action/Equal Opportunity 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.

INSTRUCTOR IN PHYSIOLOGY

The Department of Physiology at Northwestern University Medical Center seeks an instructor in physiology, to assist in teaching systems physiology to students in dentistry and in several allied health programs. Applicants should have an earned doctorate in physiology or a related discipline, and have had one or more years experience in teaching systems physiology at the tertiary level [or higher]. Teaching competence in respiratory and/or cardiovascular physiology is preferred, but candidates with expertise in other areas will be considered. Time for research will be available, and research collaboration with department members will be encouraged. Appointment is for 12 months, and is nontenure track, but a second 12-month appointment is possible. Salary is negotiable, according to qualifications and experience. Applicants should send curriculum vitae, including a description of teaching experience, and names of three referees to:

Dr. W. Z. Rymer
Department of Physiology
Northwestern University Medical School
303 East Chicago Avenue
Chicago, Illinois 60611

Northwestern University is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF HONG KONG LECTURERS IN PSYCHOLOGY

Applications are invited for the following lectureships in the Department of Psychology: (i) education psychology; (ii) cognitive and/or neural psychology. Applicants for both posts should possess a Ph.D. degree and have research, teaching, and practical experience in the relevant field. Familiarity with Hong Kong society and fluency in Chinese are preferred, though not essential. Teaching at both postgraduate and undergraduate levels will be required. Additionally, applicants for post (i) should have experience with exceptional children, assessment, and advanced methodology; applicants for post (ii) should have experience with computers, experimental design, and instrumentation. Applicants should state clearly which post they wish to apply for.

Annual salary (superannuable, currently under review) is on an 11-point scale: HK\$160,980-269,100 (US\$1 = HK\$7.80—equivalent as at 5 July 1986). Starting salary will depend on qualifications and experience. At current rates, salaries tax will not exceed 17 percent of gross income. Housing benefits at a rental of 7½ percent of salary, children's education allowances, leave, and medical benefits are provided.

Further particulars and application forms may be obtained from: **The Secretary General, Association of Commonwealth Universities (Appointments), 36 Gordon Square, London, England WC1H 0PF, or from the Appointments Unit, Secretary's Office, University of Hong Kong, Hong Kong.** Closes 31 July 1986.

POSITIONS OPEN

The Thames Science Center, a regional museum focusing on the natural and cultural history of the Thames River watershed of eastern Connecticut, seeks **INSTRUCTORS** within commuting distance to teach adult enrichment courses in the areas of biological and physical sciences and natural history. We are also seeking part-time instructors in landscape design and horticulture. Bachelors degree required; advanced degree preferred. Send curriculum vitae and description of proposed course to: **Education Department, Thames Science Center, Gallows Lane, New London, Connecticut 06320.**

LABORATORY INVESTIGATOR IN CARDIOTHORACIC SURGERY

Applications for full-time research position at **assistant professor** level are sought from candidates with a Ph.D. and at least 18 months of postdoctoral experience in the biochemistry and physiology of myocardial ischemia and reperfusion in immature and mature hearts, including a strong background in myocardial calcium homeostasis. Experience in pathophysiology of myocardial oxygen radical formation and electron spin resonance desirable. The successful applicant will be required to direct the isolated heart laboratory in the Department of Cardiothoracic Surgery and to maintain an active and independent research program in the areas described above. Proven ability to secure external funding required. Responsibilities include teaching and supervision of undergraduate and postgraduate students in the Department of Cardiothoracic Surgery. Submit curriculum vitae and references to: **Gordon N. Olinger, M.D., Professor and Chairman, Department of Cardiothoracic Surgery, The Medical College of Wisconsin, 8700 West Wisconsin Avenue, Milwaukee, Wisconsin 53226.** *The Medical College of Wisconsin is an Affirmative Action/Equal Opportunity Employer.*

MOLECULAR BIOLOGIST

The Laboratory of Molecular Endocrinology at the Massachusetts General Hospital seeks a research associate to work on vasopressin gene regulation. Experience in recombinant DNA techniques is preferable. The laboratory is focused on studies of the expression of polypeptide hormone genes. A microchemical facility for protein sequencing-synthesis and DNA synthesis is available in an adjacent care facility. Salary and rank are commensurate with experience. Send curriculum vitae and two letters of recommendation to: **J. Habener, Chief, Laboratory of Molecular Endocrinology, Massachusetts General Hospital, Boston, MA 02114.**



**LIFECODES
CORPORATION**

MOLECULAR BIOLOGIST

Lifecodes Corporation is looking for a recent Ph.D. with experience in recombinant DNA techniques to join a multidisciplinary team working on the molecular and genetic characterization of DNA probes for human genetic diagnostics.

Lifecodes Corporation is a 4-year-old company employing approximately 50 individuals committed to the area of human genetics and has both a strong research and development group and an established clinical reference laboratory.

Lifecodes Corporation is located in Westchester, New York, only 30 minutes from midtown Manhattan.

To apply, send your curriculum vitae along with the names and telephone numbers of three references to:

**Dr. Jeffrey Glassberg
Personnel Department
Lifecodes Corporation
4 Westchester Plaza
Elmsford, New York 10523**



An approved Research Organisation currently engaged in basic and fundamental research in the areas of major tropical diseases and associated with an internationally reputed research-oriented Dutch Pharmaceutical Company is looking for

DIRECTOR—RESEARCH AND DEVELOPMENT

The selected candidate is expected to lead and motivate a group of Research Scientists of various disciplines. The Organisation has already invested over Rupees twenty million in basic facilities and additional facilities are in the process of being set up.

The job involves inter alia

- to plan, organise and co-ordinate R&D work aiming to develop new drugs with emphasis on tropical diseases;
- to plan and control financial matters including budgeting and investment proposals;
- to liaise with other leading research organisations and scientists in India & abroad;
- to look after general administration and deal with personnel matters.

Pre-requisites

- should be an eminent scientist of recognised standing in Organic and/or Medicinal Chemistry with brilliant academic distinction and having original publications in leading journals;
- should have long experience in Anti-parasitic Drug Research & Development, preferably in Pharmaceutical Industry.

Age between 35-45 years. The age limit may be relaxed for exceptional candidate with vast experience in similar position.

Remuneration package includes, besides salary, other perquisites like accommodation, car with driver, medical benefit, gratuity, leave travel allowance and superannuation.

We are looking for a result oriented dynamic scientist who will be provided with requisite infra-structural facilities like well laid laboratory, sophisticated equipment and other modern facilities. Our Research Organisation is fairly new with substantial growth potential for basic research.

Arrangement for interview can be made in a suitable place in Europe or if necessary, in U.S.A.

Apply with complete bio-data in confidence to

The Secretary

ORGANON RESEARCH CENTRE 38, Chowringhee Road, Calcutta 700071 INDIA

R&D Manager

HOLLISTER-STIER, a division of Miles Pharmaceuticals, is the largest allergy extract company in the United States. This exceptional opportunity at our Spokane, Washington facility is available to a motivated individual who can contribute to the shape and success of our growing organization while achieving your own professional goals.

Challenging responsibilities include:

- **Implementing & supervising specified research & development projects related to injectable allergens or allergy diagnosis**
- **Implementing & directing efforts to improve existing products and product line extensions**
- **Evaluating new product proposals**
- **Determining appropriate formulation/packaging for new or improved products to ensure maximum shelf life and market acceptability**
- **Providing data required for the pre-clinical portions of an IND or Product License Application**

This key position reports to the V.P. Research & Development and requires an MS or PhD with 5 years of relevant experience in allergy and immunology. Must be familiar with good manufacturing/laboratory practices, the preparation of IND's and Product License Applications (including NDA's), and the regulatory practices of the Office of Biologics. Managerial skills are of utmost importance as is the ability to relate effectively to technical & non-technical personnel.

We offer an excellent compensation & benefits package. For immediate, confidential consideration, please send your resume including salary requirements to: **S.A. Lorenz, Placement & Relocation, Miles Pharmaceuticals, Division of Miles Laboratories, Inc., 400 Morgan Lane, West Haven, CT 06516.**

An Equal Opportunity Employer M F H



POSITIONS OPEN

UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY SCHOOL OF OSTEOPATHIC MEDICINE

MICROBIOLOGIST: Immunologist/molecular biologist/monoclonal antibody experience. Specialized field of interest open. FACS 420 cell counter/sorter facility available.

Applicants for assistant professor (tenure track) should have productive postdoctoral training and show evidence of developing a vigorous grant-supported research program. Applicants for associate professor or professor (tenure track or tenured) should demonstrate an excellent record of productivity and research grant support.

Submit application by 31 August 1986, accompanied by curriculum vitae, selected reprints, statement of research experience and plans, and names of three or more references to: **Dr. Robert Rhoades, Chair of the Search Committee, UMDNJ-SOM, Department of Anatomy, P.O. Box 55, Piscataway, New Jersey 08854; telephone: 201-463-4334.**

University of Medicine and Dentistry of New Jersey (UMDNJ) is an Affirmative Action/Equal Opportunity Employer, M/F/H/V.

MICROBIOLOGY DEPARTMENT HEAD: Applications and nominations are invited for a recognized scientist to serve as head of a progressive academic Department of Microbiology in the College of Veterinary Medicine, Auburn University. The Department of Microbiology consists of 15 faculty and encompasses the disciplines of bacteriology, virology, immunology, molecular genetics, mycology, epidemiology, and preventive medicine. The head directs and coordinates the department's professional and graduate instructional programs, research programs, clinical laboratory services, and public service activities. Required qualifications are a Ph.D. in an appropriate discipline, an established research record, a commitment to excellence in instructional programs, and evidence of administrative capabilities. The individual must possess qualifications appropriate to a tenure-track appointment at the rank of full professor. Screening of applicants will begin 15 August 1986, and will continue until a suitable applicant is identified. Position will be available 1 October 1986. Salary will be commensurate with qualifications. Applicants should send curriculum vitae and names of three references to: **Dr. L. G. Wolfe, Chairman of Search Committee, Department of Pathology and Parasitology, College of Veterinary Medicine, Auburn University, AL 36849.**

Auburn University is an Equal Opportunity/Affirmative Action Employer.

MOLECULAR BIOLOGIST FOR TENURE-TRACK FACULTY POSITION for development of a research program in the molecular biology of thoracic cancers. The successful candidate will be expected to develop an individual and collaborative research program. Experience in gene cloning technology, eukaryotic cell biology, and oncogene amplification and activation is desired. A doctoral degree with at least 2 years of postdoctoral experience is required. A fully equipped laboratory, technical assistance, and a competitive salary will be provided. To apply, send curriculum vitae, recent publications, and the names of three references to: **Jack A. Roth, Chairman, Department of Thoracic Surgery, Box 109, University of Texas M. D. Anderson Hospital, 6723 Bertner Avenue, Houston, Texas 77030. Telephone: 713-792-6932. An Equal Opportunity/Affirmative Action Employer.**

NEUROANATOMY/NEUROPHYSIOLOGY

Position immediately available as **assistant professor or research associate.** Individual will participate in studies of the mammalian gustatory nervous system aimed at analysis of sensory information processing. Pre- or postdoctoral experience with neuroanatomical techniques is required and interest in biomathematical modeling is desirable. Salary and category of appointment depend on interest in academic participation and credentials. To apply, send letter of intent, curriculum vitae, and names of three references to: **M. E. Frank, Connecticut Chemosensory Research Center, Department of Oral Biology, University of Connecticut Health Center, Farmington, CT 06032.**

An Affirmative Action/Equal Opportunity Employer, M/F/H.

POSITIONS OPEN

MOLECULAR BIOLOGIST to conduct DNA-mediated gene transfer studies in cultured human cells. The successful candidate will perform studies which introduce and achieve expression of genes encoding for human cytochromes P450 and epoxide hydrolase and other activities aimed at expansion of the company's activities. Qualifications include a Ph.D. or equivalent and related research experience. Send curriculum vitae and references to: **Dr. Charles L. Crespi, Gentest Corp., 6 Henshaw Street, Woburn, MA 01801.**

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.**

PLANT GENETICIST/POMOLOGIST. The Department of Pomology, University of California, Davis, seeks a geneticist/plant breeder for a tenure-track faculty position as assistant professor and assistant pomologist (10 percent teaching/90 percent research). A Ph.D. degree in genetics or closely related field is required. Basic research in the genetics of deciduous tree fruit species, particularly *Prunus* spp., will be combined with cultivar and/or rootstock development. Teaching and advising at the undergraduate and graduate level represents the 10 percent teaching component of this position. The candidate selected is expected to interact with geneticists, plant physiologists, pomologists, molecular biologists, and plant pathologists. Applicants should submit curriculum vitae, transcripts, publications list, reprints, statement of research and teaching interests, and names and addresses of at least three referees to: **Dr. Steven Weinbaum, Chair, Search Committee, Department of Pomology, University of California, Davis, CA 95616, by 1 October 1986.** The position will be available for appointment 1 January 1987, or later depending on availability of the successful applicant. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATE POSITION AT MIT available immediately to study biochemical and genetic regulation of growth factor receptors. Ph.D. with strong background in recombinant DNA technology and/or protein chemistry preferred. Interested candidates send curriculum vitae and references to: **Professor Marsha Rosner, Massachusetts Institute of Technology, Department of Applied Biological Sciences, 77 Massachusetts Avenue (E19-230), Cambridge, MA 02139. MIT is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOW (with potential for further advancement), to perform research in the field of granulocyte metabolism and physiology. Ph.D. or equivalent degree required; background in cell biology, membrane biochemistry, and/or immunology desirable. Available immediately. Salary commensurate with qualifications and experience. Send résumé with names and addresses of three references to: **Dr. Michael J. Chusid, Department of Pediatrics, Medical College of Wisconsin, 1700 West Wisconsin Avenue, P.O. Box 1997, Milwaukee, WI 53201; telephone: 414-933-4295. An Equal Opportunity/Affirmative Action Employer, M/F/H.**

POSITIONS OPEN

THE UNIVERSITY OF CALGARY MOLECULAR BIOLOGY OF HUMAN DISEASE

A new research program on the molecular biology of human disease will be established at the Faculty of Medicine, The University of Calgary. Applications are invited from both senior and junior investigators who have active research programs utilizing recombinant DNA technology in the general areas of genetic, neoplastic, or infectious diseases. This new research focus is being developed in conjunction with the construction of the new Alberta Heritage Medical Research Building, to be completed in early 1988. Appointments will be at the appropriate faculty ranks on The University of Calgary, Faculty of Medicine; scales and salaries will be funded through Alberta Heritage Foundation for Medical Research Scholarships or Medical Scientist Awards. Establishment grants will also be available through the Alberta Heritage Foundation for Medical Research. It is expected that successful senior appointments would actively participate in recruiting junior investigators in each area. Applicants should send curriculum vitae including names of three referees and recent reprints prior to 1 September 1986 to:

**Dr. David Hoar
Chairman of the Search Committee
Molecular Biology of Human Disease
Faculty of Medicine, The University of Calgary
Calgary, Alberta, Canada T2N 4N1**

All qualified individuals are encouraged to apply, but preference will be given to Canadian citizens and permanent residents.

MOLECULAR NEUROBIOLOGIST-GENETICIST: Joint appointment with the Biological Sciences Research Center (BSRC), Department of Biochemistry and Nutrition, and the Program in Molecular Biology-Biotechnology (PMBB) at the University of North Carolina at Chapel Hill. Applicants should have a Ph.D. or M.D., an established record of independent research using recombinant DNA technology and experience/interest in the developing nervous system. Academic, tenure-track appointment as assistant or associate professor of biochemistry. Laboratory space is in the BSRC, a multidisciplinary facility for MR research including: developmental neurobiology, human genetics, neuroendocrinology, and neuropharmacology. Majority of time will be devoted to own research; collaboration with other programs is expected. There will be some teaching duties in the Department of Biochemistry and Nutrition and the PMBB. Send curriculum vitae and three references to: **Kunihiko Suzuki, M.D., Director, BSRC-220H, University of North Carolina School of Medicine, Chapel Hill, NC 27514. Minority and women candidates are encouraged to identify themselves when applying. Deadline for applying, 1 August 1986. Affirmative Action/Equal Opportunity Employer.**

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.**

POSTDOCTORAL POSITIONS: Mechanism of action of phenolic antitumor drugs

Research involves studies of metabolic pathways and biochemical effects of reactive metabolites with subcellular systems and whole cells. Relevant experience in biochemistry, drug metabolism and/or analytical chemistry is necessary. Previous postdoctoral training desirable. Salary range \$20,000 to \$25,000 per year. Contact: **Drs. D. Ross and J. Thompson, Molecular and Environmental Toxicology Program, University of Colorado, C.B. 297, Boulder, CO 80309-0297.**

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

Postdoctoral Research



**What will you
discover
when you join Lederle?**

At American Cyanamid's highly prestigious Medical Research Division, we're working to discover innovative solutions to diverse health care needs. Currently, we have two excellent opportunities for postdoctoral researchers in our Infectious Disease Research Section.

In one position, you'll be involved in research studying the regulation of the SOS response in *Bacillus subtilis*. Experience with *B. subtilis*, along with demonstrated skills in recombinant DNA technology is required.

In another position, you'll explore drug-DNA interactions with novel antitumor agents. Experience in the chemistry of drug-DNA interactions is required. This experience should include determining DNA sequence specificities using "footprinting" techniques.

At Lederle, you'll find a stimulating, highly professional research environment in beautiful Rockland County, just 35 miles from New York City. For immediate consideration, forward your CV and brief history of related research to: Mrs. N. Levine, Infectious Disease Research Section, American Cyanamid Company, Lederle Laboratories, Pearl River, NY 10965. An Equal Opportunity Employer m/f.



**Dedicated People
Dedicated to People
Since 1906**

MOLECULAR BIOLOGIST/ VIROLOGIST

The Nucleic Acid Research Institute, a joint partnership between ICN Pharmaceuticals and Eastman Kodak, invites applications for a full time research position in the Department of Biochemistry. The position is available October 1, 1986.

A major emphasis of the Department of Biochemistry is the development of antiviral agents. We are seeking an individual qualified to investigate the molecular biology of both RNA and DNA viruses, in an effort to discover new targets for drug therapy and to discern modes of action of active antivirals. Expertise in probe development, recombinant nucleic acid technology, and nucleic acid/ protein sequencing and synthesis is required.

Qualified candidates should have completed minimum 2 years of pertinent postdoctoral work. Letter of application, curriculum vitae, and supporting material, including names of three references are to be submitted by 30 July, 1986 to:

Linda Lagerlof, Manager of Personnel
Nucleic Acid Research Institute
3300 Hyland Avenue
Costa Mesa, CA 92626

An Equal Opportunity Employer

Postdoctoral Scientist Molecular Pharmacology

Smith Kline & French Laboratories, a world leader in health care and technology is seeking a Postdoctoral Scientist to join an interdisciplinary research program in an environment designed to foster creative, innovative research and to promote personal and professional growth.

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

The successful candidate will:

- study the effects of a variety of organo-metal complexes on mitochondrial structure and function.
- investigate the correlation of therapeutic and toxic effects, cellular effects and effect on subcellular targets (with the emphasis on mitochondria) by organo-metal drugs.
- work in collaboration with members of the Molecular Pharmacology, Investigational Toxicology and Cell Biology Departments.
- gain experience in a variety of experimental techniques including flow cytometry, image analysis, HPLC, and in vitro cell culture.
- publish work in scientific literature, attend national meetings to communicate the science.

Candidates are required to have:

- a Ph.D. in Biochemistry, Pharmacology or Biophysics with 0-2 years postdoctoral research experience.
- experience in mitochondrial biochemistry.
- excellent oral and written communication skills.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your CV and the names of three references to: George P. Kissell, Jr., Manager, Personnel Relations, SmithKline Beckman Corporation, 1570 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.



A SmithKline Beckman Company

CARDIOVASCULAR / BIOCHEMICAL PHARMACOLOGISTS Ph.D.'s

Merck Sharp & Dohme Research Laboratories is currently seeking candidates for Senior positions in our Cardiovascular Pharmacology Department. Successful candidates will join a multidisciplinary team involved in both basic research and drug discovery programs directed toward the development of novel therapeutic approaches to cardiovascular disorders. Applicants must have a doctoral degree in pharmacology, physiology or biochemistry or the equivalent and 1-3 years of post-doctoral training. Research experience in physiological and/or biochemical mechanisms involved in regulating the cardiovascular system in normal and diseased states is desirable.

Excellent salary and benefits programs accompany these positions at our modern and spacious research laboratories located in a campus-like setting northwest of Philadelphia, Pa.

If interested, please send resume with salary requirements to: Mr. Jacques P. Kueny

**MERCK SHARP & DOHME
RESEARCH LABORATORIES**

West Point, PA 19486

EEO/AA/VH/EMPLOYER



Merck & Co., Inc.

POSITIONS OPEN

PHYSIOLOGIST, Ph.D.—M.D. Prior training and experience in electrophysiological techniques applied to epithelial transport. Junior faculty position starting 1 September 1986. Salary negotiable. Send résumé and names of three references to: **John P. Hayslett, M.D., Professor of Medicine, Department of Medicine, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOW. Ph.D./biochemistry or toxicology interested in the study of chemical carcinogenesis. Study the effects of dietary glucosinolates on methylation of tissue DNA by environmental carcinogens. Strong background in analytical chemistry desirable. Excellent multidisciplinary environment for cancer research. Send résumé to: **Dr. Fung-Lung Chung, Division of Chemical Carcinogenesis, American Health Foundation, Valhalla, NY 10595. An Equal Opportunity Employer.**

POSTDOCTORAL FELLOW: Position available 1 July 1986 for synthetic peptide chemist. Studies involve the design and synthesis of bioactive analogues of plasma complement proteins. A background in the synthesis, isolation, and characterization of peptides is required. Send curriculum vitae with cover letter and the names of at least two references to: **Dr. Tony E. Hugli, Department of Immunology IMM18, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

POSTDOCTORAL POSITION available 1 September 1986 to study immunological functions of subsets of lymphocytes infected by HTLV-III. Candidates should have a Ph.D. in molecular biology, immunology, or virology and be interested in surface and molecular alterations in cells induced by the virus. Send curriculum vitae, research interests, and experience and three letters of recommendation to: **Dorothy E. Lewis, Ph.D., Howard Hughes Medical Institute, Department of Microbiology and Immunology, Baylor College of Medicine, Houston, Texas 77030.**

POSTDOCTORAL POSITION available to work on genetic and biochemical analysis of insecticide resistance in *Drosophila*. The work involves purification and genetic characterization of cytochrome P-450 and possibly other proteins from susceptible and resistant strains, and evaluation of their role in insecticide resistance. Salary range: \$18,420 to \$21,720 (Canadian) per annum. Please send curriculum vitae, reprints, and two letters of reference to: **Dr. R. S. Singh, Department of Biology, McMaster University, 1280 Main Street West, Hamilton, Ontario, Canada L8S 4K1.**

POSTDOCTORAL POSITION available 1 September 1986 to study the protein chemistry and catalytic properties of glutathione-dependent enzymes. Some experience in organic synthesis desirable. Please send résumé to: **Dr. Donald J. Creighton, Department of Chemistry, University of Maryland Baltimore County, Catonsville, MD 21228. The University is an Equal Opportunity/Affirmative Action Employer. Minorities and women are encouraged to apply.**

POSTDOCTORAL RESEARCH POSITION available immediately for NSF-funded project on cellular mechanisms of swimming in *Aplysia*. Emphasis on identification of central neurons involved in pattern generation and analysis of the role of serotonin. Prior experience with behavioral, electrophysiological, morphological, and/or pharmacological techniques is required. Send curriculum vitae and names of three references to: **H. M. Pinsker, Marine Biomedical Institute, University of Texas Medical Branch (UTMB), 200 University Boulevard, Galveston, Texas 77550. UTMB at Galveston is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.**

POSTDOCTORAL POSITION, INTERFACIAL TRANSPORT, available immediately. ACS-PRF funded project studying kinetics and thermodynamics of solute transport at model biomembrane interfaces. Background in any one of physical chemistry, chemical engineering, biochemistry, and pharmaceutical science. Salary around \$22,000. Send curriculum vitae and names of two references to: **Professor R. H. Guy, Departments of Pharmacy and Pharmaceutical Chemistry, University of California, San Francisco (UCSF), CA 94143. UCSF is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION available 1 August 1986, to study the activity and stability of enzymes (primarily α -glucosylase) immobilized onto a novel porous glass support. Candidate should have good background in biochemistry, and the ability to interact successfully with a group of life scientists, chemists, and biochemical engineers. Salary range: \$16,000 to \$20,000, depending on qualifications. Send résumé and list of references to: **Dr. Norman Jansen, Fermentation and Enzyme Technology Group, Laboratory of Renewable Resources Engineering, Purdue University, West Lafayette, IN 47907.**

An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available to investigate mechanisms of cytotoxicity involved in single and fractionated drug-radiation treatments. Experience in pharmacology and/or radiation biology desirable. Salary approximately \$21,000. Must be U.S. citizen or permanent resident. Send curriculum vitae and names of three references to: **Dr. Dennis F. Deen, Brain Tumor Research Center, HSW 783, University of California, San Francisco, CA 94143; telephone: 415-476-5876. UCSF is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available in fall, 1986 for research in thiol-disulfide exchange. Experience in enzymology, sulfhydryl chemistry, and HPLC preferred. Please send curriculum vitae and three letters of recommendation to: **Dr. H. F. Gilbert, Baylor College of Medicine, Biochemistry Department, One Baylor Plaza, Houston, Texas 77030. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available in the area of hormonal regulation of animal cell growth and development. Studies involve using biochemical and immunological techniques to examine the physiological role of somatomedins and their carrier proteins in fetal development of agriculturally important animals. Applicants having experience in protein biochemistry and protein binding and radioimmunoassays should submit curriculum vitae and three letters of recommendation by 15 July (or until suitable candidates apply thereafter) to: **Dr. Gary L. Smith, School of Biological Sciences, University of Nebraska—Lincoln, Lincoln, Nebraska 68588-0118. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION is available immediately to study enzymes regulating phosphoinositide metabolism in brain. Applicants must have experience in enzyme purification and isolation and membrane lipid methods. Send résumé and references to:

Dr. Grace Y. Sund, Sinclair Research Farm, University of Missouri, Route 3, Columbia, MO 65203.

An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITIONS are available in the following laboratories and research areas in the Department of Pharmacology at Cornell University:

- 1) **R. Cerione**—Structure-function studies of purified growth factor receptors and their reconstituted interactions with other cellular components (G proteins, *ras*).
- 2) **C. Fewtrell**—Role of calcium in IgE receptor-mediated secretion from mast cells (using fluorescence techniques including imaging, ^{45}Ca flux studies, and patch clamping).
- 3) **R. Oswald**—Investigations of the mechanisms of action of central nervous system acetylcholine receptors.
- 4) **G. Weiland**—Biochemical and electrophysiological studies of voltage-sensitive Ca^{2+} channels.

Applicants should have a Ph.D. or equivalent with research experience in pharmacology, biochemistry, biophysics, cell biology, chemistry, or physiology. Send curriculum vitae, research experience, and the names of three references to any of the above at:

**Department of Pharmacology
New York State College of Veterinary Medicine
Cornell University
Ithaca, New York 14853-6401**

Cornell University is an Affirmative Action/Equal Opportunity Employer/Educator.

POSITIONS OPEN

POSTDOCTORAL POSITION IN NEUROBIOLOGY AND BEHAVIOR available immediately to study cellular mechanisms of learning and memory, sensory compensation, and/or "pain" in a simple system (*Aplysia*). Knowledge of electrophysiology, cell biology, neuroethology, or learning psychology helpful, but not essential. Competitive salary based on experience. Send curriculum vitae and three references to: **Dr. Edgar T. Walters, Department of Physiology and Cell Biology, University of Texas Medical School, P.O. Box 20708, Houston, Texas 77225. An Equal Opportunity Employer. Women and Minorities are Encouraged to Apply.**

POSTDOCTORAL POSITION

Postdoctoral position available to study DNA enzymes in mouse and man. Experience in enzymology and/or recombinant DNA is essential. Very competitive environment. Send applications to: **Dr. Aziz Sancar, University of North Carolina, Department of Biochemistry 231H, Chapel Hill, NC 27514. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE

A postdoctoral research position is available for a cellular physiologist to investigate the role of intracellular Ca and pH changes and the inositol lipid cascade in frog egg activation and early pattern formation. Some experience with electrophysiology is desired. This appointment will be for 2 to 3 years. Salary: \$20,000 per year. Closing date: 1 August 1986.

Send résumé and names of three references to: **Dr. Richard Nuccitelli, Zoology Department, University of California, Davis, CA 95616.**

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

The University of Nebraska College of Medicine, Department of Biochemistry, is seeking a **POSTDOCTORAL RESEARCH ASSOCIATE** to study gene structure/function for a growth hormone-like factor. Work will include construction and screening of genomic and cDNA expression libraries, DNA sequencing, and so forth. Ph.D. in biochemistry, or molecular biology with experience in recombinant DNA technology required. Send curriculum vitae and three letters of reference by 31 July 1986 to: **C. Kirk Phares, Ph.D., Biochemistry Department, University of Nebraska Medical Center, 42nd and Dewey, Omaha, NE 68105. Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW: Two positions are available to study structure/function of contractile proteins in muscle and non-muscle motility. Applicant should have expertise either in gene cloning and site-directed mutagenesis, or have a background in physical biochemistry (for example, fluorescence spectroscopy, protein modification).

Send résumé and three references to: **Dr. S. Lowey, Rosenstiel Basic Medical Sciences Research Center, Brandeis University, Waltham, MA 02254.**

An Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE OR RESEARCH ASSISTANT PROFESSOR IN MOLECULAR PHARMACOLOGY

Available July 1986 to study the effects of aging on brain muscarinic receptor function in collaboration with **Dr. E. E. El-Fakahany**. Responsibilities also include some teaching in professional and graduate level courses in pharmacology/physiology. Facilities include fully equipped laboratory in recently constructed pharmacy school. Department thrusts in neuro- and behavioral pharmacology and toxicology, and biochemical pharmacology offer additional opportunities for collaborative research. Requirements: Ph.D. in pharmacology with strong background in biochemical techniques used to assess receptor function. Salary and fringe benefits commensurate with experience and level of appointment. Send curriculum vitae and three letters of recommendation to:

J. Edward Moreton, Ph.D., Acting Chairman, Department of Pharmacology and Toxicology, University of Maryland School of Pharmacy, Baltimore, Maryland 21201.

An Equal Opportunity/Affirmative Action Employer.

Postdoctoral Position

Postdoctoral position available in multidisciplinary laboratory conducting neurochemical, neuroanatomical, endocrinological and electrophysiological research in olfactory, limbic and basal forebrain systems. Expertise in immunohistochemistry, in situ hybridization, connective neuroanatomy and/or single unit and intracellular recording is highly desirable. Candidate must have Ph.D. or M.D. degree. Send resume and names of three references to: **Dr. Foteos Macrides, C/O Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545, USA.**



**WORCESTER
FOUNDATION FOR
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**DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
FOOD AND DRUG ADMINISTRATION
CENTER FOR FOOD SAFETY AND APPLIED NUTRITION**

SCIENTIFIC-ADMINISTRATIVE POSITIONS:

Several very challenging Civil Service positions available involved with the safety review of food and color additives. Responsibilities include participating in the scientific team review of these food ingredients; recommending whether the ingredients should be permitted for use in foods; conferring with consumer and industry representatives; and developing regulations which either approve the ingredients for use in foods or prohibit their use.

Candidates should possess a thorough educational background in the physical or biological sciences (Ph.D. desirable), the ability to make sound, justifiable recommendations and judgments, and the ability to effectively convey these recommendations both orally and in writing. Applicants who are selected will receive training on FDA laws and regulations, and will be expected to develop the capability to interpret these laws and regulations.

Salary: From \$26,381 to \$37,599 per annum depending upon qualifications. Send curriculum vitae, bibliography, and transcript or listing of college and university courses to:

**DHHS/Food and Drug Administration
Division of Human Resources Management (HFA-424)
Personnel Operations Branch-FOB 8
200 C Street, S.W.
Attn: D. Harris
Washington, D.C. 20204**

All applicants must meet U.S. Civil Service requirements. FDA is an Equal Opportunity Employer.

The University of Texas Medical Branch at Galveston

Dean of The Graduate School of Biomedical Sciences and Associate Vice President for Research

The University of Texas Medical Branch (UTMB) is one of fourteen components of The University of Texas System. The campus opened in 1891 as the first medical school in Texas and currently is one of four University of Texas health science centers. UTMB is located on Galveston Island in the Gulf of Mexico, approximately fifty miles from Houston. The island has a residential population of 65,000 and is a popular resort center. UTMB encompasses the Schools of Medicine, Allied Health Sciences, and Nursing, and the Graduate School of Biomedical Sciences, all of which offer graduate degrees.

This newly created position involves several important responsibilities: To develop and maintain high-quality graduate education programs; to develop and support interdisciplinary research programs; to administer certain institutional research funds; to plan and support research symposia and conferences; to coordinate efforts aimed at obtaining new and increased research support.

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Letters of application should be accompanied by a current curriculum vitae, the names of five references acquainted with the candidate's academic and administrative accomplishments, and any other pertinent information. Application should be made before Aug. 1, 1986 to:

**Dr. C.W. Cooper
Search Committee Chairman
Dept. of Pharmacology & Toxicology
UTMB
Galveston, TX 77550**

UTMB

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POSITIONS OPEN

RESEARCH SCIENTIST— LIPID METABOLISM

One or two positions for an independent investigator in the area of lipid or lipoprotein metabolism. The individual should hold the M.D. or Ph.D. degree and have 2 to 3 years of postdoctoral experience in research in the area of lipid or lipoprotein metabolism. Additional training in molecular or cell biology is highly desirable. The individual should be capable of establishing an independent program which would be a component of a larger unit in the area of lipid metabolism. Appropriate facilities and start-up support are available.

The Research Institute of the Palo Alto Medical Foundation is a well-equipped, not-for-profit, pure research institute located in downtown Palo Alto near the Stanford University campus.

Send curriculum vitae and three letters of reference to:

Dr. Allen D. Cooper
Director, Research Institute
Palo Alto Medical Foundation
860 Bryant Street
Palo Alto, California 94301
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RESEARCH TECHNICIAN POSITION available for Georgetown University Medical Center Bone Marrow Transplantation Program. Salary \$22,500. Please send résumé to: **Dr. Robert J. Jacobson, Division of Hematology, Georgetown University Hospital, 3800 Reservoir Road, NW, Washington, DC 20007.** *An Affirmative Action/Equal Opportunity Employer.*

RESEARCH TRAINING IN MEMBRANE BIOLOGY

Postdoctoral positions available for research in the field of membrane interactions with drugs, anesthetics, and alcohol using natural membrane and liposome model systems. Research emphasis on membrane lipid organization, protein-lipid interactions, hormonal regulation of calcium flux, and inositolpolyphosphate metabolism. The department has a Membrane Biology Group devoted to basic research with Bruker AM-360 NMR, IBM ER-200D ESR, time-resolved fluorescence, and well-equipped lipid analysis facilities. Joint appointment with the Jefferson Institute of Molecular Medicine may be possible. Send curriculum vitae and names of three references to: **E. Rubin, Professor and Chairman (ref HS1), Department of Pathology, Thomas Jefferson University Medical College, 1020 Locust Street, Philadelphia, PA 19107.**

PLANT MOLECULAR BIOLOGY CENTER

Two anticipated tenure-track positions available as early as October 1986 in a rapidly expanding Plant Molecular Biology Research Center with appointment(s) possible in the Departments of Biological Sciences and/or Chemistry.

Scientific Coordinator. Associate professor level or above. The successful candidate will be expected to maintain a research program of excellence, secure external funding from government and industry, direct master's/doctoral students, and conduct one seminar course each year. He/she will have some administrative responsibilities in the center and will be instrumental in planning future staffing. Qualifications are: a Ph.D. and extensive experience in a field of plant biology such as molecular biology, biochemistry, or genetics. Salary is competitive.

Assistant Professor. Candidates must have a demonstrated competence in plant molecular biology and recombinant DNA technology. Postdoctoral experience is required. Development and maintenance of a vigorous research program with external funding is expected. Other duties will include a limited amount of formal teaching and the supervision of master's/doctoral students.

Northern Illinois University is a comprehensive university of 25,000 students located in a pleasant, attractive community 65 miles west of Chicago. Send curriculum vitae, statement of research goals, and three letters of reference by 15 August 1986 to: **Dr. Marvin Starzyk, Department of Biological Sciences, Northern Illinois University, DeKalb, IL 60115.** Telephone: 815-753-1753. *The University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

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, 0410-44106.** *An Equal Opportunity Employer.*

SOCIAL INSECT BIOLOGIST. Tenure-track position. Candidate expected to develop a contemporary research program on the biology of termites and/or ants including applied research and ad hoc extension on social insects as needed. Instruction responsibilities include an undergraduate course in entomology and a graduate offering on social insects. Applicant must possess a Ph.D. in entomology or biology with emphasis on social insects. Preference given to candidate with postdoctoral experience, high quality publications, and demonstrated ability to secure extramural research funds. Submit curriculum vitae, five sample publications, transcripts, names of five references, and a brief outline of research goals and a possible graduate level course by 1 August 1986 to: **Professor R. L. Smith, Chairman, Search Committee, Department of Entomology, The University of Arizona, Tucson, AZ 85721.**

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The Crop Science Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture (USDA), Mississippi State, Mississippi, is accepting applications from qualified agronomist or geneticist (plants) for the following position:

SUPERVISORY RESEARCH AGRONOMIST OR GENETICIST (PLANTS), GM-13/14/15 (research leader). Assignment presents an opportunity for conducting and leading research to enhance efficient use of land and climate resources in the production of forages, pastures, and supplemental feeds for utilization by livestock. Must be a U.S. citizen. Salary \$37,599 to \$52,262, based on qualifications and experience. Ph.D. plus extensive research experience is desirable. Usual federal government benefits apply. For further information and application packet, telephone: (area code 301) **344-1508, U.S. Department of Agriculture, Beltsville, MD.** Refer to 6S004 when inquiring about vacancy. Completed applications must be received by 1 August 1986. *USDA is an Affirmative Action/Equal Opportunity Employer.*

SHOWA UNIVERSITY RESEARCH INSTITUTE FOR BIOMEDICINE

Two independent scientists are sought who have established expertise in

- 1) The molecular genetics of B and T cell development and
- 2) mechanisms of oncogene function and regulation.

Preference will be given to those programs that are directly involved with, or seek to resolve, basic issues in human disease.

Showa University is unique in its affiliation with a major Japanese Medical University. The institute is based in a new facility with excellent individual laboratory and office space and centralized services. Investigators are allowed complete freedom to pursue research goals and, while generous program support is provided, scientists are expected to secure extramural funding. Both postdoctoral and predoctoral opportunities exist. Ranks will be commensurate with experience and research accomplishments. Senior and mid-level candidates are invited to submit a brief description of extramurally funded research and a current research support statement. Salary, fringe benefits, and start-up support are excellent.

Individuals interested in these positions should send their curriculum vitae and a list of publications to: **Chairman, Search Committee, Showa University Research Institute for Biomedicine, 10900 Roosevelt Boulevard, St. Petersburg, Florida 33702.** *A not-for-profit organization/Equal Opportunity Employer.*

POSITIONS OPEN

TOXICOLOGIST

The Life Sciences Department of IIT Research Institute, a not-for-profit Chicago-based research organization, has a position available for a staff toxicologist.

The candidate must have a Ph.D. degree in toxicology and 2 to 3 years of experience in an industrial or contract toxicology laboratory. Experience in teratology/reproduction or carcinogenesis, and good knowledge of GLP's and testing guidelines under EPA, FDA, and OECD regulations are desirable. The candidate will serve as study director for subchronic and chronic toxicity tests, and will supervise the conduct of studies, the generation of protocols and SOP's, and the writing of final reports. The candidate will also have the opportunity to conduct joint research projects with other staff scientists. Permanent U.S. residency or U.S. citizenship is required. Salary commensurate with qualifications and experience. Please submit résumé, including salary history to **L. Amft, Senior Personnel Representative, Department S22, IIT Research Institute, 10 West 35 Street, Chicago, IL 60616.** *Equal Opportunity/Affirmative Action Employer, M/F/V/H.*

VERTEBRATE PHYSIOLOGIST

Indiana State University, Department of Life Sciences, offers a tenure-track appointment at the level of assistant professor. The candidate will be expected to develop an independently fundable research program, teach in an area of specialization, and teach in an undergraduate anatomy and physiology course. Applicants qualified in the area of neurobiology are preferred. Salary is competitive. Applicants must be a United States citizen or hold a resident alien visa. Applications received after 31 July 1986 cannot be assured of full consideration.

Send curriculum vitae and three letters of reference to:

Dr. Timothy Mulkey, Chairperson
Physiology Search Committee
Department of Life Sciences
Indiana State University
Terre Haute, IN 47809

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AWARDS

ARTHRITIS RESEARCH AWARDS. The Southern California Chapter of the Arthritis Foundation is instituting Arthritis Research Awards of up to \$100,000 each to provide support to a physician(s) or other scientist(s) (M.D.'s or Ph.D.'s) conducting an innovative biomedical research project relevant to the rheumatic diseases. Funded research must be conducted within the Southern California chapter area. Applications from sources not traditionally funded by the Arthritis Foundation are encouraged. The application deadline is 2 September 1986. Contact: **Arthritis Foundation, 4311 Wilshire Boulevard, Suite 311, Los Angeles, California 90010.** Attention: Mary Ellen Kullman, or telephone: (213) 938-6111.

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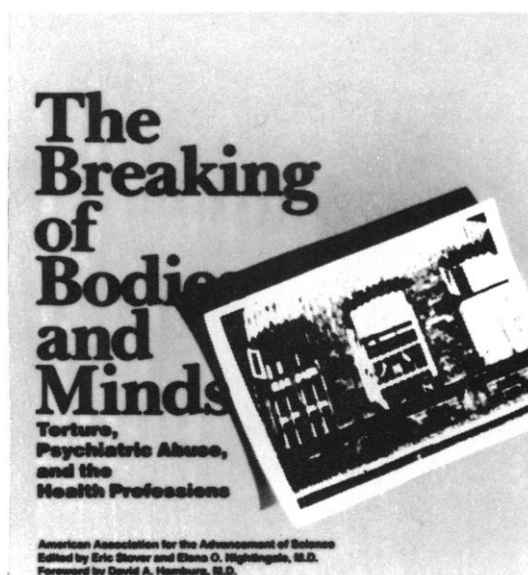
Mass spectrometry (731, 7070E, HP Quad) of neuropeptides and neurochemicals. Radioimmunoassay, radio-receptor assay, HPLC. Send résumé to: **Professor D. M. Desiderio, Department of Neurology, University of Tennessee—Memphis, Memphis, TN 38163.**

The Breaking of Bodies and Minds

Torture, Psychiatric Abuse, and the Health Professions

A documentation of systematic use and effects of physical and mental torture throughout the world

Edited by Eric Stover
and Elena O. Nightingale
With a Foreword by
David A. Hamburg



This eye-opening book brings together for the first time writings on the role of medical personnel in cases of torture and psychiatric abuse. Through analyses and case histories, psychiatrists and other health care professionals, political scientists, ethicists, and other writers discuss the systematic use and effects of physical and mental torture in the Soviet Union, Latin America, and other parts of the world.

The book also details the complicity of an alarming number of medical personnel in torture and psychiatric abuse and examines the ways in which governments use a medical rationale to seek legitimacy for human destruction. Finally, it describes efforts by medical and other associations both to combat offensive practices and treat victims.

The Breaking of Bodies and Minds is important reading for anyone concerned with the preservation of basic human rights.

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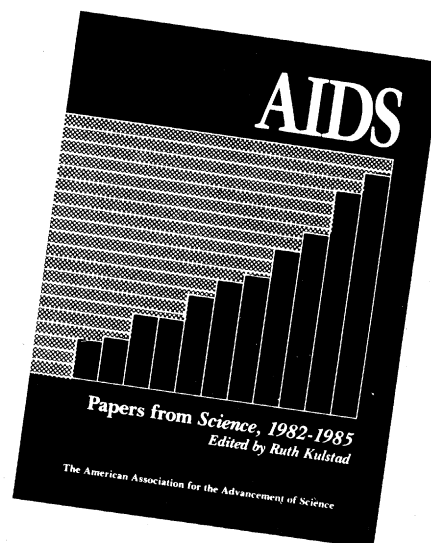
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