

mechanisms. Therefore the periodicity of permutations is not a good criterion for the construction of Q and the Dieter group. In my opinion, a good criterion—if it exists—has not yet been discovered except when the Dieter group is the Pechukas or the Longuet-Higgins group.

Hyperchirality, a controversial subject, is discussed at length in the book. It is well known that, in a family of permutational isomers, two enantiomers have point groups with identical permutational expressions. It is possible, however, for two isomers that are not enantiomers to have this property. Ten years ago Dugundji, Marquarding, and Ugi proposed that such isomers be called hyperchiral isomers. Their attempt to predict observable consequences of these purely algebraic properties has been refuted; the discussion of the subject in the book dwells upon the formal aspects of the problem, but it does not provide evidence in favor of characteristic properties of hyperchiral isomers or against the idea that hyperchirality is merely a mathematical artifact.

The book also contains various detailed illustrations as well as a clearly written appendix that outlines mathematical material.

Does the book really open perspectives in theoretical stereochemistry? It adopts an unconventional—and sometimes provocative—point of view, but the methods and concepts that are developed in it are often rather similar to previously developed ones.

JEAN BROCAS

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Université Libre de Bruxelles,
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Scattering Phenomena

Electron-Molecule Collisions. ISAO SHIMAMURA and KAZUO TAKAYANAGI, Eds. Plenum, New York, 1984. xiv, 570 pp., illus. \$85. *Physics of Atoms and Molecules.*

For the formal theorist, electron-molecule collisions offer the basic unrestricted many-body problem with the added spice of a multicentered, nonspherical target having several degrees of freedom. In a chapter with a nice historical flavor, Takayanagi provides a superb introduction to the basic theory. He provides a context for the other chapters by bringing into a coherent whole all of the pieces familiar to the graduate reader (such as potential scattering theory, expansions of nonspherical potentials, the concept of cross sections, simple experimental

systems, and Born's approximation). The same ability to bring life to a subject that Takayanagi displays is seen throughout the book. Notable in this respect are Shimamura's elegant exposition of the otherwise dry and daunting theory of angular momentum and Herzberg's explication of resonance effects in vibrational excitation by the use of familiar potential well scattering theory.

Drop a single electron into the electronic mixture that is a molecule and it can catalyze fascinating reactions, often tickling the molecule's atoms into jumping from one bound, attractive well into another or onto a curve in which the atoms inevitably slide apart. The study of the weak and temporary interactions that bind the electron to the neutral molecule long enough for such reactions to take place efficiently is the major challenge of the field and the common thread in the book. The foundation in scattering, angular momentum, and resonance theory and in experimental technique that has been laid in earlier chapters particularly complements a chapter by Hall and Read, who discuss the bewildering variety of negative ion states from a spectroscopic point of view. Compton and Bardsley take us on a tour of the particle zoo that results when the molecule is tickled into self-destruction: electrons and positive, negative, and neutral atoms (or even other molecules), which are often unpredictably excited. Both of these chapters provide not only a concise survey of what is known, but also a generalist's view of how it became known and might be understood.

Knowledge of a phenomenon includes knowledge of the rate at which things happen (that is, the probability or cross-section for a process) as well as knowledge of the states and products that are produced. The novice scientist, and perhaps also the expert, is well served by two chapters laying out the major experimental and computational techniques in some detail. Trajmar and Register provide a very readable (to a theorist like myself) description of all the major experimental techniques and the physics involved in the extraction of data therefrom. For the computational physicist, electron-molecule collisions offer one of the best opportunities to humble even the most advanced modern computers. Buckley, Burke, and Noble show how the scattering theory is molded, and approximated when necessary or useful, into powerful computational methods applicable to all of the processes discussed elsewhere. Like the others, these chapters provide not only the accessibility

of a textbook but also the exhaustive bibliography of a good review article. I know of no better answer to the "What's your field like?" question of the potential graduate research student than to hand him or her this book.

DAVID W. NORCROSS

*Joint Institute for Laboratory
Astrophysics, University of Colorado,
Boulder 80309*

Reprints of Books

Previously Reviewed

The Invention of the Modern Hospital, Boston, 1870–1930. Morris J. Vogel. University of Chicago Press, Chicago, 1985. Paper, \$6.95. *Reviewed* 214, 1338 (1981).

Powers of Ten. A Book about the Relative Size of Things in the Universe and the Effect of Adding Another Zero. Philip and Phyllis Morrison and the Office of Charles and Ray Eames. Scientific American Library, New York, 1985 (distributor, Freeman, New York). Paper, \$19.95. *Reviewed* 221, 1281 (1983).

Books Received

Effective Lagrangians in Quantum Electrodynamics. Walter Dittrich and Martin Reuter. Springer-Verlag, New York, 1985. vi, 244 pp. Paper, \$14.60. *Lecture Notes in Physics*, vol. 220.

Electron Impact Ionization. T. D. Märk and G. H. Dunn, Eds. Springer-Verlag, New York, 1985. xii, 384 pp., illus. \$58.50.

Elements of Petroleum Geology. Richard C. Selley. Freeman, New York, 1985. xiv, 449 pp., illus., + plates. \$44.95.

Elliptic Problem Solvers II. Garrett Birkhoff and Arthur Schoenstadt, Eds. Academic Press, Orlando, Fla., 1984. xiv, 573 pp., illus. \$39. From a conference, Monterey, Calif., Jan. 1983.

English-Russian Dictionary of Computer Science. V. K. Zeidenberg, A. N. Zimarev, and A. M. Stepanov. E. K. Maslovsky, Ed. 3rd ed. "Russkij Yazyk", Moscow, and Pergamon, New York, 1984. 504 pp. \$50.

Entrapment in Escalating Conflicts. A Social Psychological Analysis. Joel Brockner and Jeffrey Z. Rubin. Springer-Verlag, New York, 1985. xiv, 276 pp. \$37. *Springer Series in Social Psychology*.

Environmental Geochemistry and Health. Report to the Royal Society's British National Committee for Problems of the Environment, S. H. U. Bowie and I. Thornton, Eds. Reidel, Boston, 1985 (distributor, Kluwer, Hingham, Mass.). xii, 140 pp. \$27.50.

Environmental Science. A Framework for Decision Making. Daniel D. Chiras. Benjamin/Cummings, Menlo Park, Calif., 1985. xx, 655 pp., illus. \$33.95.

Enzymes in Organic Synthesis. Pitman, London, 1985 (U.S. distributor, CIBA Pharmaceutical Co., Newark, N.J.). viii, 248 pp., illus. \$35. Ciba Foundation Symposium 111. From a symposium, London, May 1984.

Voltage and Patch Clamping with Microelectrodes. Thomas G. Smith, Jr., et al., Eds. American Physiological Society, Bethesda, Md., 1985 (distributor, Williams and Wilkins, Baltimore). viii, 260 pp., illus. Paper, \$39.50. From a workshop, Hayman Island, Australia, Sept. 1983.

Water, Earth, and Fire. Land Use and Environmental Planning in the New Jersey Pine Barrens. Jonathan Berger and John W. Sinton. Johns Hopkins University Press, Baltimore, 1985. xx, 228 pp., illus. \$25.

Water Quality Management. A Review of the Development and Application of Mathematical Models. M. B. Beck. Springer-Verlag, New York, 1985. viii, 107 pp., illus. Paper, \$10.50. *Lecture Notes in Engineering*, vol. 11.

Western Forests. Stephen Whitney. Knopf, New York, 1985. 672 pp., illus. Paper, \$14.95. The Audubon Society Nature Guides.

Wetlands. William A. Niering. Knopf, New York, 1985. 640 pp., illus. Paper, \$14.95. The Audubon Society Nature Guides.

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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30 August issue (mailed 23 August): **9 August**
6 September issue (mailed 30 August): **16 August**
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9th Floor—1333 H Street, NW
Washington, D.C. 20005

POSITIONS WANTED

Cardiovascular Pharmacologist, Ph.D. 1977. Experienced in anti-hypertensive and diuretic drug development. Methods include hemodynamics, clearance, and autonomic preparations. Also skilled with in vitro methods and drug receptor theory. Publications, IND preparation, and 7 years of supervisory experience. Seeking industrial position; no geographical restriction. Box 162, SCIENCE. 8/2, 9

Ph.D. Clinical Chemist/Biochemist. Training in business management. Six years of industrial experience in R&D management and hands-on in in vitro diagnostics product development (RIA and non-isotopic assays). Experience also includes marketing, manufacturing, quality control, and sales training. Seeking challenging position in industry. Will also consider start-up companies. Box 158, SCIENCE. X

Diplomphysiker, Dr. rer. nat. from TU Berlin, Germany, Indian national, 5 years of research experience; 15 publications on radiation dosimetry and related fields; seeks suitable position in R&D. Box 163, SCIENCE. 8/2, 9

Environmental/Soil Chemist. Training in laboratory research on environmental problems associated with livestock wastes, with emphasis on physical chemistry of soil surfaces that control mobility of pollutants in the environment. Pesticide residue analysis of feed, fat, and water. Experienced with GC, GPC, and wet methods. Postdoctoral and supervisory experience. Box 152, SCIENCE. 8/2, 16, 30; 9/13

Ph.D.—Physiology. Five years of postdoctoral experience in electrophysiology and pharmacology of peripheral nervous system. Broad background in psychology and physical sciences. Investigating administrative and/or marketing positions as "liaison" between private industry and laboratory scientists. Desires position in Midwest or Northeast. Box 155, SCIENCE. X

POSITIONS WANTED

Pharmacologist/Toxicologist, B.S. 1957, D.V.M. 1959, M.S. 1964, Ph.D. 1966. Numerous publications in drug and poison mechanisms/interactions/antidotes in various species. Interdisciplinary team-oriented. Co-investigator with microbiologists, pathologists, biologists, physicians, dentists, animal scientists, and also is P.I. of team projects. Accomplished teacher. Problem solver. Excellent writing/editing skills. Some administrative background. Seeking full professorship or research and managerial position. Wishes to continue research with various species. No employment agencies. Box 160, SCIENCE. X

Physiology Professor, D.V.M., Ph.D. Adaptive changes to stress: endocrine-hematological; cardiovascular-renal-body fluid system; bone-calcium. Publications. Seeking research/teaching position. Available August 1985. Box 156, SCIENCE. X

Professor of Medicine, M.D., with own equipped laboratory, seeks clinical teaching, research, and academic program development position. Box 161, SCIENCE. X

Research Technician. Research experience in physiology laboratory. Experience with HPLC systems, tissue culture, radioimmunoassays, in vitro and in vivo animal studies, chemical analysis, laboratory management, and computers. Seeking industrial or academic position. Box 159, SCIENCE. 8/2, 9

Technical Translator, Japanese and Russian into English, academic qualifications and 6 years of experience, excellent quality, seeks direct contact with clients for steady full- or part-time translation or abstracting. Telephone: 206-328-2081. X

POSITIONS OPEN

TEXAS—ADMINISTRATIVE POSITION—GRADUATE STUDIES AND RESEARCH. Assistant Dean for Graduate Studies and Research with faculty rank of associate professor or professor. Doctorate degree required; combined D.D.S./Ph.D. degrees preferred. Responsibilities include administration and coordination of advanced education programs in the biomedical sciences and dental specialties; and promotion of faculty and student research. Established record in research and research funding required. Tenure, rank, and salary based on qualifications. Send curriculum vitae, along with names and addresses of three references, to: **Dr. T. W. Gage, Chairman, Search Committee for Assistant Dean, 3302 Gaston Avenue, Dallas, Texas 75246. Equal Opportunity/Affirmative Action Employer.**

AQUATIC ANIMAL DISEASE ASSISTANT/ASSOCIATE/FULL PROFESSOR. Rank and salary commensurate with experience and qualifications. The Department of Medicine, School of Veterinary Medicine, University of California, Davis, is seeking applicants for a faculty position to teach and conduct research in the areas of aquatic animal disease and toxicology, and develop a clinical practice concerned with aquatic species. A postgraduate degree with advanced training and experience in aquatic animal pathology and toxicology is essential to the position, a D.V.M. desirable. The development of a productive toxicological research program relating to animals significant to fisheries and aquaculture is an indispensable requirement of the position. Applicants are requested to submit curriculum vitae and the names of three individuals who may be contacted for letters of evaluation to: **Dr. Alex Ardans, Department of Medicine, School of Veterinary Medicine, University of California, Davis, Calif. 95616.** Final filing date is 1 October 1985 or until a suitable candidate is identified. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT OR ASSOCIATE PROFESSOR OF URBAN ECOLOGY, University of Washington. Twelve-month tenure-track; 60 percent research in urban ecology; 25 percent teaching; 15 percent public service. Applicants will develop innovative program applying community ecology to urban/landscape systems. Training in micrometeorology and plant physiology desirable. Ph.D. in botany or related plant science field. Respond to: **Dr. H. B. Tukey, Jr., Center for Urban Horticulture, University of Washington GF-15, Seattle, Wash. 98195. Telephone: 206-543-8616. The University of Washington is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

ANATOMY—ASSISTANT PROFESSOR

Department of Anatomy, University of South Dakota School of Medicine, invites applications from qualified persons with Ph.D. or M.D. for teaching/research position beginning 1 October 1985. Qualifications include broadly based anatomical training/experience for teaching medical and graduate students and an active independent research program. Closing date: 31 August 1985. Send curriculum vitae with list of three references to: **Dr. Wesley W. Parke, Chairman, Department of Anatomy, University of South Dakota School of Medicine, Vermillion, South Dakota 57069.**

Equal Opportunity/Affirmative Action Employer

ASSISTANT/ASSOCIATE PROFESSOR. Molecular animal virology. Applications are invited for a tenure-track position at either the assistant or associate professor level in a highly productive and interactive research and teaching department. Candidates should have a proven record of productivity in the area of molecular animal virology. Please send curriculum vitae, bibliography, description of research interests, and names and addresses of three references to: **Dr. Arthur Brown, Department of Microbiology, University of Tennessee, Knoxville, Tenn. 37996.** Deadline for applications is 15 September 1985; earliest starting date is 1 January 1986. *The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR. The Department of Entomology-Nematology, University of Florida, is seeking a honey bee geneticist. This is a tenure-track, 12-month appointment. Ph.D. is required in entomology or related discipline with emphasis on genetics. Experience working with honey bees highly desirable. The position requires interaction with Extension workers and the Florida beekeeping industry. Applicants should submit a letter of application and curriculum vitae, transcripts, and three letters of reference by 31 August to: **Dr. M. T. Sanford, 202 Newell Hall, University of Florida, Gainesville, Fla. 32611.**

DEPARTMENT OF ANATOMY UNIVERSITY OF OTTAWA

The Department of Anatomy invites applications for a tenure-track position at the level of **ASSISTANT PROFESSOR**. The successful candidate must have an M.D. and/or Ph.D. degree, a strong commitment to teaching at the undergraduate and graduate levels and a demonstrated ability to function as an independent researcher. The primary responsibility will involve the teaching of anatomy (gross and neuro) to physiotherapy students, in a new program scheduled to begin in September 1986. The applicant must be fluent in English and French. Curriculum vitae with the names of three referees should be submitted to: **Dr. E. Sas, Chairperson of the Search Committee, Department of Anatomy, University of Ottawa, 451 Smyth Road, Ottawa, Ontario, Canada K1H 8M5.** *In accordance with immigration requirements, this advertisement is directed primarily at Canadian citizens and landed immigrants.*

ASSISTANT/ASSOCIATE PROFESSOR OF BIOCHEMISTRY UNIVERSITY OF KENTUCKY COLLEGE OF MEDICINE

Three tenure-track positions are available at the level of assistant or associate professor. Candidates must have post-Ph.D./M.D. training and will be expected to establish an active independent research program as well as to participate in teaching graduate and medical students. While the area of interest is open, preference will be given to individuals with expertise in physical biochemistry, molecular biology, nucleic acid chemistry/enzymology, or biochemical genetics. The department maintains substantial facilities for chemical and physical analysis of small and large biological molecules including automated protein microsequencing, oligonucleotide synthesis, and GC/Mass spectrometry. Other resources are available through the Lucille P. Markey Cancer Center, the Sanders-Brown Center on Aging, a newly created Magnetic Resonance Imaging and Spectroscopy Facility and the Tobacco and Health Research Institute. Submit curriculum vitae, a list of publications, a brief synopsis of present and proposed research, and the names of three references by 30 September 1985 to: **Dr. Thomas C. Vanaman, Chairman, Department of Biochemistry, University of Kentucky College of Medicine, Lexington, Ky. 40536-0084. An Equal Opportunity Employer.**

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR OF PHYSIOLOGY

Applications are invited for a faculty position in the Department of Physiological Sciences. Requirements include a Ph.D. in physiology or closely related area. Candidates must demonstrate outstanding teaching ability and commitment. We offer faculty rank and salary commensurate with professional experience and achievements. The position is available 1 October 1985.

Duties include the design and teaching of a comprehensive course in medical physiology, including laboratory, to first-year medical students. In addition, the faculty member will participate in department student-related activities and designated committee assignments. Limited funds are available to assist in personal research interests.

Qualified candidates may submit a letter of application, curriculum vitae, and supporting material, including the names of three references, by 30 August 1985, to: **Harold J. Stronach, Director of Human Resources, Dr. William M. Scholl College of Podiatric Medicine, 1001 North Dearborn Street, Chicago, Ill. 60610.**

ASSOCIATE PROFESSOR OF SURGERY (RESEARCH)

The Division of Orthopaedic Surgery of Stanford University School of Medicine is seeking a **BASIC SCIENTIST** to fill an academic position at the rank of associate professor of surgery (research), to be based full-time at the Stanford University School of Medicine. Applicants should be tenure-equivalent, with a clear record of research productivity in the field of musculoskeletal research with emphasis on cartilage biochemistry and metabolism in joint diseases, and should have specific expertise with reference to chondrocyte physiology. The incumbent will be expected to develop a sponsored research program and supervise doctoral candidate research. Applicants should send a detailed résumé, two selected publications, and the names of three references to: **David J. Schurman, M.D., Division of Orthopaedic Surgery, Room R165, Stanford University School of Medicine, Stanford, Calif. 94305.**

Stanford University is an Equal Opportunity Employer and welcomes nominations of women and minority group members and applications from them.

BIOLOGIST

The Department of Molecular, Cellular, and Developmental Biology (MCDB) of the University of Colorado is seeking an assistant professor. The candidate's research specialty may be in any area where molecular techniques are now predominant. Plant biology, virology, developmental genetics, mechanisms of prokaryotic and eukaryotic gene expression, and molecular pathogenesis are some suitable areas. Evidence of ability to initiate and sustain an outstanding research program will be paramount, and the candidate should have postdoctoral experience. This tenure-track position will be available in September 1986, though applications for the year following are encouraged. Please send curriculum vitae, reprints, the names of three professional references, and other relevant material to: **Search Committee, MCDB, Campus Box 347, University of Colorado, Boulder, Colo. 80309.** Deadline for application is 15 October 1985. *Applications from women and members of minorities are sought and will be welcomed.*

BIOCHEMIST

The Department of Biological Sciences at the State University of New York (SUNY), University Center at Binghamton, invites applications for a tenure-track assistant professor position in biochemistry and/or molecular biology. Proficiency in recombinant DNA techniques and interest in collaborating with department faculty will be a strong asset. The candidate should have done postdoctoral work, and will be expected to establish a strong research program and to teach undergraduate and graduate courses in biochemistry. Candidates should send curriculum vitae, statements of research and teaching interests, copies of recent publications, and the names and addresses of three referees to: **Dr. Anna Tan-Wilson, Biology Department, SUNY at Binghamton, Binghamton, New York 13901, by 9 September 1985.**

State University of New York is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

BIOCHEMIST/CHEMIST. Assistant or associate professor; rank and salary dependent upon qualifications and experience. Full-time leave replacement for 1985-1986 (start 3 September). Ph.D. in biochemistry with strong chemistry background or Ph.D. in chemistry with extensive training and laboratory experience in biochemistry required. Teaching experience desired. Open until filled. **Telephone: 507-457-5290 collect, or send application form requests to: Affirmative Action Officer, Winona State University, Winona, Minn. 55987. An Equal Opportunity/Affirmative Action Employer.**

BIOCHEMIST UNIVERSITY RESEARCH

Studies chemical process of living organisms; performs research into the purification and biochemical, including amino acid composition and sequences, immunochemical characterizations of viral antigens of Equine Infectious Anemia Virus, including specific protein cleavages by chemical/enzyme treatments, chemical protein modification studies and the production of and analysis by monoclonal antibodies. Maintains and operates a computerized HPLC amino acid analyzer and an automated gas phase protein sequencer. Performs routine administrative functions for the facility; maintains records of usage, expenditure, and income. Must have a Ph.D. in chemistry (biochemistry); must have 2 years of experience; must have knowledge in: (i) analysis of amino acid composition with automated amino acid analyzer, (ii) protein sequencing by an automated protein sequencer, and (iii) production and characterization of monoclonal antibodies. Forty hours per week; 8 a.m. to 5 p.m.; \$25,000 per year. Apply at: **Louisiana Office of Employment Security, 1991 Wooddale Boulevard, Baton Rouge, La. 70896. Refer to: Job Order Number 581523.**

BIOMOLECULAR ENGINEER with Ph.D. in physical chemistry and 5 years of postdoctoral research in luminescent O₂ detection to develop and synthesize patentable chemical systems for continuous luminescent/phosphorescent detection of O₂ concentration using remote fiberoptic sensors for incorporation in biomedical instrumentation. Position in Seattle; \$40,755 per year; 40 hours per week. Mail résumés to: **Employment Security Department, ES Division, Attention: AEC Number 45580, Olympia, Wash. 98504.**

CHAIRMAN DEPARTMENT OF MICROBIOLOGY UNIVERSITY OF ALABAMA AT BIRMINGHAM

The University of Alabama at Birmingham invites applications and nominations for the position of professor and chairman of its Department of Microbiology. The candidate should have a strong commitment to academic excellence, and national recognition for scholarly accomplishments. Please submit curriculum vitae and other pertinent information to:

**Dr. J. D. Neill
Department of Physiology and Biophysics
University of Alabama at Birmingham
University Station
Birmingham, Ala. 35294**

An Equal Opportunity/Affirmative Action Employer

DEAN COLLEGE OF MEDICINE UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

Applications and nominations for the position of dean of the College of Medicine at the University of Arkansas for Medical Sciences (UAMS) are requested. The College enrolls approximately 540 M.D. students, 400 housestaff, and 100 graduate students. Educational programs include participation in six Area Health Education Centers and an active continuing education program statewide. Clinical service programs are conducted at the University Hospital, Arkansas Children's Hospital, two VA Hospitals, and numerous affiliated community hospitals.

The dean reports to the chancellor and is responsible for all programs in the College of Medicine. Applicants should have prior administrative experience.

To apply, submit curriculum vitae by 1 September 1985 to:

**John P. Shock, M.D.
Chairman, Search Committee
University of Arkansas for Medical Sciences
4301 West Markham Street, Slot Number 523
Little Rock, Ark. 72205**

UAMS is an Affirmative Action Employer.

POSITIONS OPEN

CHAIRMAN, DEPARTMENT OF PHARMACOLOGY/TOXICOLOGY—MEDICAL COLLEGE OF GEORGIA seeks nominations and applications for leadership position in well-established department with history of outstanding accomplishments. Candidate should have demonstrated excellence as investigator and educator in pharmacology, and desire to participate in growth of dynamic institution. Send nominations or curriculum vitae with names of three references by 15 September to: **Dr. Albert W. Pruitt, Chair—Pharmacology Search Committee, Department of Pediatrics, Medical College of Georgia, Augusta, Georgia 30912. Equal Opportunity/Affirmative Action Employer. J2974.**

CHAIRPERSON, DEPARTMENT OF PSYCHOLOGY, STATE UNIVERSITY OF NEW YORK (SUNY)—STONY BROOK. Person with leadership experience and international visibility sought to lead department with strong reputation consisting of 40 full-time faculty. The Psychology Department will make a significant number of tenure-track appointments in the coming years. Excellent research facilities and research support can be expected. Send curriculum vitae, and names of three references to: **Dr. K. Daniel O'Leary, Chair, Search Committee, Department of Psychology, SUNY-Stony Brook, Stony Brook, N.Y. 11794-2500. SUNY-Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK Number 132D-85.**

CHAIRMAN AND PROFESSOR Department of Horticultural Science Ontario Agricultural College (OAC) University of Guelph

Nominations and applications are invited for the position of **chairman** of the Department of Horticultural Science at the University of Guelph, Guelph, Ontario, Canada. The position becomes available 1 July 1986. The department offers an undergraduate major in horticultural science and a graduate program at the master's and Ph.D. levels. It currently has 18 faculty and 35 graduate students.

The department chairman will have administrative responsibilities for the departmental programs; provide leadership to the faculty and assist them in professional development; maintain liaison with other administrators within the university, with government agencies and allied industry groups to coordinate research, teaching, and extension programs and strengthen interdisciplinary activities; actively seek and develop new sources of funding for the departmental programs and take an active part in professional organizations. The position provides the opportunity to continue personal involvement in teaching, research and extension. Candidates must have demonstrated leadership and administrative ability.

Applications will be accepted until 31 October 1985. Applicants should submit curriculum vitae and the names of three people who may be contacted for letters of reference to:

**Dr. F. L. McEwen
Dean, OAC
University of Guelph
Guelph, Ontario, Canada N1G 2W1
Telephone: 519-824-4120, extension 2284**

EM LABORATORY TECHNICIANS. Two positions available immediately for persons experienced in conventional TEM and SEM techniques. Position 1: EDS experience desirable; salary: \$24,338. Position 2: Skill in ultramicrotomy essential; salary: \$24,000. Send résumé and names of three references to: **Dr. Greta E. Tyson, Director, Electron Microscope Center, Drawer EM, Mississippi State University, Mississippi State, Miss. 39762. Telephone: 601-325-2085.**

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

ENVIRONMENTAL/OCCUPATIONAL HEALTH

Applications are invited for a senior faculty position in environmental health at the College of Public Health, University of South Florida. The position available is a full-time, tenure-earning track with rank and salary commensurate with training and experience. A doctoral degree is required with demonstrated ability in teaching and research. Qualified individuals should send current curriculum vitae to: **Charles I. Noss, Sc.D., Chairperson, Environmental/Occupational Health Faculty Search Committee, University of South Florida, College of Public Health, 13301 North 30 Street, Tampa, Florida 33612. Closing date: 30 September 1985. The University of South Florida is an Equal Opportunity Employer.**

POSITIONS OPEN

CHEMISTRY DEPARTMENT

Indiana University of Pennsylvania (IUP) invites applications for a tenure-track **assistant/associate professor** in the Chemistry Department beginning September 1986. The successful candidate must be committed to quality teaching not only in biochemistry but at the introductory level as well. Research participation in M.S. degree program in chemistry with emphasis on biochemistry is expected. Research interests should complement present staff. Ph.D. expected and teaching experience desirable. Applications must include a résumé, transcripts, and names, addresses, and telephone numbers of four references, and a one- to three-page statement of research interests. Deadline date for receipt of applications is 1 September 1985. Send to: **Dr. Richard A. Hartline, Chemistry Department, IUP, Indiana, Pa. 15705.**

IUP is an Affirmative Action/Equal Opportunity Employer.

The University of Colorado, School of Pharmacy, is seeking applications and nominations for the position of **DEAN**. Applicants must have a doctoral level degree in an area related to the pharmaceutical sciences, a professional pharmacy degree, and should have experience in pharmacy education coupled with demonstrable success in developing academic and research programs. Experience in interacting with professional groups and other extra-university agencies is desirable. The School of Pharmacy has approximately 180 undergraduate and 15 graduate students. The 18 full-time faculty have developed a quality teaching and research effort approaching \$1.5 million. The basic pharmaceutical sciences faculty are located in Boulder and the clinical faculty are located at the Health Sciences Center campus in Denver. Applications are encouraged from individuals interested in guiding and working with the faculty in the further development of our professional curriculum and research programs. The successful candidate will be expected to coordinate and support the teaching, research, and service efforts of the faculty and will be responsible for the administration of the School of Pharmacy. This is a 12-month appointment; salary negotiable. Applicants should send their curriculum vitae, along with the names of five references, by 15 October 1985 to:

**Dr. Allan C. Collins, Chair
Dean's Search Committee
University of Colorado School of Pharmacy
Campus Box 297
Boulder, Colo. 80309**

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

The Department of Pediatrics at the University of Oklahoma Health Sciences Center in Oklahoma City is recruiting a **DIVISION CHIEF** at the professorial level for its five-member Division of Hematology/Oncology. Applicant is expected to assume administrative responsibilities of the unit, promote faculty development, teach students and residents, and develop an active research program. Excellent opportunities with protected time for research are guaranteed. Research interest in molecular biology, genetics, tumor immunology, clinical pharmacology, cell biology, or bone marrow transplantation is preferred. The division is also deeply involved in clinical research with the Pediatric Oncology Group. Send résumé to: **Owen M. Rennert, M.D., Department of Pediatrics, Oklahoma Children's Memorial Hospital, P.O. Box 26901, Oklahoma City, Oklahoma 73190.**

The University of Michigan Medical School, Department of Radiology, has on occasion open **FACULTY POSITIONS** within the department and its affiliated hospitals. Physicians filling these positions will take part in the programs of patient care, teaching, and research in the Department of Radiology. They will supervise the activities of house officers and aid in the teaching of house officers and medical students. Qualified applicants must be American Board of Radiology-certified or Board-eligible. Previous training or work experience in an academic institution as well as demonstration of previous academic research and teaching experience are desirable. Academic rank will depend on qualifications and experience. Interested applicants should contact: **William Martel, M.D., Chairman, Department of Radiology, The University of Michigan Medical School, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer.

POSITIONS OPEN

ECOLOGIST. The Department of Biology, Kenyon College, invites applications for a tenure-track position. The successful candidate will be expected to teach at the introductory and advanced levels for undergraduates and to maintain a program of research that will allow undergraduate participation. A commitment to teaching excellence is required. The department is developing a program in environmental biology and seeks candidates who can contribute significantly to the establishment of a teaching field station. Applicants' primary research interests should include a systems approach and aquatic ecology. Applicants should send statements of teaching and research interest, curriculum vitae, graduate transcripts, and three letters of reference to: **E. R. Heithaus, Ecology Search Committee, Biology Department, Kenyon College, Gambier, Ohio 43022.** Deadline for receipt of applications: 1 November 1985.

Kenyon College is an Equal Opportunity Employer that encourages applications from all qualified individuals, including members of minority groups and women.

EVOLUTIONARY BIOLOGIST

The Department of Zoology of the University of Maryland seeks outstanding applicants for a tenure-track position of evolutionary biologist. Rank is open, and preference will be given to candidates who use modern methods to investigate evolutionary questions. Send curriculum vitae, statement of research interests, reprints, and at least three letters of recommendation to: **Evolutionary Biology Search Committee, Department of Zoology, University of Maryland, College Park, Md. 20742,** by 30 September 1985.

An Affirmative Action/Equal Opportunity Employer

UNIVERSITY OF CALIFORNIA DIVISION OF AGRICULTURE AND NATURAL RESOURCES COOPERATIVE EXTENSION

Extension Plant Pathologist Davis Campus

An academic career track appointment, subject to administrative review of position and incumbent's performance prior to end of 3-year period.

Develop and extend educational information on diseases of field and vegetable crops statewide and provide diagnostic services on disease identification. Ensure Affirmative Action in development and delivery of programs. Graduate education, experience in plant pathology, or closely related field required. Beginning salary in associate specialist rank. Contact: **Cooperative Extension Personnel, 2120 University Avenue, Berkeley, Calif. 94720. Telephone: 415-644-4320.** Close: 25 October 1985. Refer to Number A-85-049.

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

FACULTY MEMBER/ASSISTANT PROFESSOR BIOMETRY

Teaches one or more subjects within the biometry curriculum; conducts research in biometry; performs data management and statistical analysis of medical data in long-term epidemiologic study; consults and collaborates with medical investigators; develops new statistical methods and applies to data analysis on computer by use of statistical packages. Must have background in statistical packages and computer programming. Must have Ph.D. in biometry (biostatistics); 40 hours per week, 8 a.m. to 5 p.m.; \$28,000 per year. Apply at: **The Louisiana Office of Employment Security, 617 St. Charles Avenue, New Orleans, La. 70130.** Refer to: **Job Order Number 416692.**

FISHERIES/AQUATIC SCIENTIST

Project scientist to plan and manage biological effects portion of the National Acid Precipitation Assessment Program. Research areas include aquatic biota (especially fisheries) response to acidification, indirect human health effects (mercury bioaccumulation and metals mobilization), and fisheries response to aquatic mitigation. Ph.D. in fisheries, environmental science, aquatic chemistry, or closely allied discipline. Salary commensurate with qualifications. Send résumé and names of three references to:

**Karen L. Borgen
Northrop Services, Inc.
200 Southwest 35th Street
Corvallis, Ore. 97333**

POSITIONS OPEN

FACULTY POSITION EUKARYOTIC MOLECULAR GENETICIST

The Department of Biology at Portland State University (PSU) invites applications for a new tenure-track assistant professorship. Candidates for this position should have an established and ongoing research program in the area of eukaryotic molecular genetics. We are seeking someone investigating gene regulation in animal cells or viruses. At least 3 years of postdoctoral research and teaching experience are required.

The individual will be expected to establish an active funded research program, direct graduate student research, and participate in undergraduate and graduate teaching. Salary is negotiable and commensurate with experience. Starting date for the position will be no later than 16 September 1986. Candidates should submit, by 1 October 1985, a letter describing research interests and professional goals, curriculum vitae and three letters of reference to: **Dr. Robert Millette, Department of Biology, Portland State University, P.O. Box 751, Portland, Oregon 97207.**

PSU is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF ARIZONA FACULTY POSITION IN BIOCHEMISTRY DEPARTMENT

Applications are invited from outstanding candidates who have demonstrated originality and productivity for a tenure-track faculty position at either the junior or senior level. Preference will be given to candidates with research interests in either experimental or theoretical aspects of macromolecular dynamics or in the application of NMR spectroscopy to biological problems. The successful candidate will also participate in graduate/undergraduate teaching.

Applicants should submit curriculum vitae, bibliography, a two-page summary of research plans, copies of two representative publications or preprints, and arrange for three letters of reference to be sent by 1 November 1985 to: **Dr. Gordon Tollin, Department of Biochemistry, Biosciences West, University of Arizona, Tucson, Ariz. 85721.** An Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.

FACULTY POSITIONS, MOLECULAR BIOLOGISTS, PRINCETON UNIVERSITY. The Department of Molecular Biology is seeking to fill junior and senior faculty positions. Research interest to higher and lower eukaryotic systems. Submit a brief description of proposed research program, curriculum vitae, and list of references to: **Dr. J. Broach, c/o L. Cole, Department of Molecular Biology, Princeton University, N.J. 08544.**

Princeton University is an Equal Opportunity/Affirmative Action Employer, M/F.

MORRIS COLLEGE, a private and predominantly black, 4-year liberal arts college in Sumter, S.C., is seeking a person to teach **GENERAL CHEMISTRY, ORGANIC CHEMISTRY AND PHYSICAL SCIENCE.** Effective fall semester 1985 (August). Ph.D. preferred, master's degree acceptable. Salary and rank commensurate with qualifications and experience. Submit letter of application, personal résumé, letters of recommendation, and academic transcripts to: **The Personnel Officer, Morris College, Sumter, S.C. 29150.** An Equal Opportunity/Affirmative Action Employer.

MANAGER—TISSUE PROCESSING LABORATORY. This supervisory position is in a high-volume quality and service-oriented tissue processing (histopathology and electron microscopy) laboratory, with five full-time employees. Implementation of new ultrastructural and histologic techniques, and subsequent training of personnel will be ongoing managerial responsibilities. ASCP certification as a HT/HTL and a minimum of 5 years of relevant experience are required. Strong administrative and organizational skills are essential, including effective communication and interaction with people. This is a permanent, full-time position; salary commensurate with qualifications and abilities. Letters of application, curriculum vitae, and at least three letters of reference should be sent to: **Dr. C. W. Leathers, Washington Animal Disease Diagnostic Laboratory, P.O. Box 2037 C.S., Pullman, Wash. 99165; telephone: 509-335-9696.** Washington State University is an Equal Opportunity/Affirmative Action Employer. We encourage minority, women, handicapped, Vietnam-era and disabled veterans, and aged persons to apply and identify themselves as such in their applications.

Director Product Safety

The Plastics & Additives Division of CIBA-GEIGY Corporation is respected for its continued commitment to quality and excellence in our specialty chemical products.

We currently require the expertise of a seasoned professional to ensure that all products comply with existing and projected government safety standards.

Your qualifications must include demonstrated expertise in environmental and product safety regulations. A Ph.D. or equivalent, 7-10 years' experience in regulatory affairs within the chemical or a related industry (or with a relevant government agency) and excellent organizational and communications skills are required.

We offer an excellent salary, benefits and relocation package. For prompt and confidential consideration, forward a resume, including salary history, to: Human Resources, Plastics & Additives Division, CIBA-GEIGY Corporation, 3 Skyline Drive, Dept. SC714, Hawthorne, NY 10532. We are an equal opportunity employer m/f/h/v.

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**GENERAL
FOODS**

ENZYMOLOGIST

An opening exists within our Basic Science area for an Enzymologist. The successful candidate will be a Ph.D. level Enzymologist with up to five years' relevant experience, preferably in a hydrolytic enzyme area.

The successful candidate will conduct bench-level research using enzymes in creating and improving food products. Interested individuals should send C.V./Resume and letter in confidence to:

Personnel Associate (RLS)
General Foods Corporation
Technical Research Center
555 South Broadway
Tarrytown, N.Y. 10591

An Equal Opportunity Employer M/F/H/c

Process Exploration

Immunobiology

Ortho Pharmaceutical, a Johnson & Johnson Company, is respected throughout the world for its leadership in the research of therapeutic monoclonal antibodies. We currently seek an experienced Ph.D. for a senior level, growth-oriented position purifying monoclonal antibodies.

Working with the Division's research scientists, you will isolate and purify proteins; your experience in this area will, preferably, include immunoglobulin components. Some basic knowledge of biochemical techniques are also necessary.

The candidate we seek possesses 4 years' experience and a Ph.D. in Biochemistry, Immunochimistry or Physical Chemistry, with coursework in Immunology. You must also demonstrate strong analytical problem-solving, supervisory and communications skills.

We offer an outstanding salary and benefits package and the opportunities for professional growth and advancement associated with belonging to the Johnson & Johnson Family of Companies. For immediate consideration, please send detailed resume to: Ms. Robin Engard Seiz, Dept. 23,

**ORTHO PHARMACEUTICAL
CORPORATION**

Route 202, Raritan, New Jersey 08869-0602

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POSTDOCTORAL SCIENTIST

The New Technology Research Division of our Biomedical Products Department is seeking an Immunologist to join our multidisciplinary research group located in Billerica, MA, a suburb of Boston. The successful candidate will conduct research and publish paper on lymphocyte activation and human monoclonal antibodies. Postdoctoral positions are one year assignments renewable for a second year upon mutual agreement. Applicants should possess a Ph.D. in Immunology/Biochemistry. Experience in cellular immunology and membrane immunochemistry is preferred.

We offer a stimulating scientific environment and excellent salaries. To apply, please send résumé, bibliography, and three references to Ms. Erin Moore, E.I. duPont de Nemours & Co., Inc., 549 Albany Street, Boston, MA 02118. An Equal Opportunity Employer.

DU PONT NEN Products

DIRECTOR **LABORATORY FOR CELL, MOLECULAR, and** **DEVELOPMENTAL BIOLOGY**

The Department of Biological Sciences of the University of Illinois at Chicago seeks a **SENIOR MOLECULAR BIOLOGIST** for the position of director of the Laboratory for Cell, Molecular, and Developmental Biology. Candidates should have an exceptional record of research accomplishments, demonstrated organizational skills, and recognition as leaders in the field. Research specialty is open, but should be in an area central to modern molecular biology.

The Laboratory was established to strengthen and consolidate research and training programs in modern cellular, molecular, and developmental biology. It reflects a major campus commitment to foster excellence in the emerging areas of molecular biology and biotechnology. At present, 20 faculty members of the department participate in the research programs of the Laboratory. The Laboratory places strong emphasis on the maintenance of a productive research environment and on graduate and postdoctoral training. Permanent funding exists for support staff, for graduate fellowships, and for new equipment and facilities. The successful candidate will be expected to maintain an active and highly visible research group and to assume a leadership role in further growth and development of the laboratory and its programs, including the recruitment of new faculty members.

The successful candidate's academic appointment will be a tenured position as **professor** in the Department of Biological Sciences. Salary is negotiable. The position will be available 1 July 1986. Applications will be accepted until 1 February 1986 or until the position is filled. Nominations, or applications including curriculum vitae and the names of three references, should be sent to: **Dr. D. A. Morrison, Chair of the Search Committee for a Director, Department of Biological Sciences, University of Illinois at Chicago, Box 4348, Chicago, Ill. 60680; telephone: 312-996-6839. The University of Illinois at Chicago is an Equal Opportunity/Affirmative Action Employer.**

Vacancy Announcement **U.S. Environmental Protection Agency (EPA)** **Research Triangle Park** **North Carolina**

Applications are invited for a **MOLECULAR/CELLULAR BIOLOGIST** with experience in cell biology and/or immunology for a position in the field of human pulmonary immunology and immunotoxicology. The position is located in the Clinical Research Branch, Inhalation Toxicology Division, Health Effects Research Laboratory. It is a permanent, full-time federal Civil Service position (GS-12/13). The salary range is \$31,619 to \$48,876. The salary level will depend upon individual qualifications.

The successful candidate will be expected to initiate and conduct research in molecular biology as it relates to inhalation toxicology. This research will involve the development of innovative approaches to study the effects of inhalation pollutants such as O₃ and NO₂ on immune cells. The area of growth-regulatory factors and other cytokines secreted by macrophages and lymphocytes will be emphasized.

The Clinical Research Branch of the EPA is located on the University of North Carolina campus at Chapel Hill and 10 miles from Duke with ample opportunities for exciting collaborative arrangements in an academic setting.

The candidate should: (i) possess a Ph.D. in cellular and/or molecular biology, (ii) have a minimum of 2 years of postdoctoral research experience in cell biology, gene cloning, transcriptional and translational regulation, biochemical purification of proteins, hybridoma technology and flow cytometry. The candidate should have demonstrated research ability as evidenced by publication in peer review journals, and (iii) have a demonstrated record of the ability to collaborate in a highly cooperative setting. U.S. citizenship required. Forward curriculum vitae and names of four persons that can be contacted for references to: **Dr. Hillel S. Koren, c/o Personnel Management Division (MD-29), U.S. EPA, Medical Research Building C, Chapel Hill, N.C. 27514, no later than 19 August 1985.**

Equal Opportunity Employer

POSITIONS OPEN

Fred Hutchinson Cancer Research Center **Division of Basic Sciences**

FACULTY POSITIONS at the assistant, associate, and full member levels in the Division of Basic Sciences, are available with emphasis on the following areas:

Physical Biochemistry of Macromolecules **Molecular Neurobiology** **Prokaryotic Molecular Genetics** **Cell Biology**

Candidates should have Ph.D. or M.D. degree and postdoctoral experience with a record of scientific excellence. Send curriculum vitae with names and addresses for four references to:

New Staff Committee
Fred Hutchinson Cancer Research Center
1124 Columbia Street, M419
Seattle, Washington 98104

The University of Michigan, School of Natural Resources, is seeking to fill a full-time, 9-month, tenure-track position in **FOREST MANAGEMENT**. Rank and salary will be commensurate with the individual's qualifications and experience. The primary focus is directed toward forest management in a research-oriented, interdisciplinary professional school focusing on renewable natural resources. Qualifications for the position are excellence in research and teaching and a Ph.D. in a field appropriate to the interests of the School. Preparation and experience in forest management are required and additional preparation in management science, forest economics, silviculture, growth and yield, and/or biometrics is desirable. Applicants should have knowledge of forest management as both a private and public sector activity, and a strong research publication record. It is expected that the position will be filled no later than 1 September 1986, but a starting date as soon as 1 January 1986 is possible.

Applicants should submit curriculum vitae, college transcripts, and list of publications along with supportive information on their research and teaching interests in relation to this position. All materials should be sent to: **Dr. James E. Crowfoot, Dean, School of Natural Resources, 3516 Dana Building, The University of Michigan, Ann Arbor, Mich. 48109-1115.** Screening will begin no later than 15 September 1985, but applications will be considered until a suitable candidate is found.

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OLD DOMINION UNIVERSITY

GENETICIST. Assistant professor rank in research-oriented tenure-track position available January 1986 or August 1986. Ph.D. required with research experience at the cellular or molecular level. Teaching responsibilities include a basic course in genetics. Send résumé with names and addresses of three references by 25 October 1985 to: **Dr. H. G. Marshall, Department of Biological Sciences, Old Dominion University, Norfolk, Va. 23508. Old Dominion University is an Affirmative Action/Equal Opportunity Institution.**

MOLECULAR BIOLOGISTS

The Department of Biology, The University of Alabama, invites applications for two tenure-track positions at the **ASSISTANT OR ASSOCIATE PROFESSOR** level to begin August 1986. We seek individuals with research interests in molecular biology. Demonstrated expertise in some aspect of recombinant DNA technology (including gene isolation and cloning, nucleic acid sequencing and/or gene expression and regulation) is essential. Successful candidates will be expected to develop an active, independent research program and participate in departmental teaching programs. The Ph.D. and postdoctoral experience are required. Rank and salary commensurate with experience. Applicants should submit curriculum vitae, a statement of research interests, and at least three letters of reference to:

Dr. Ronald Lindahl, Chairman
Search Committee
Department of Biology
The University of Alabama
P.O. Box 1927
University, Alabama 35486

DEADLINE: Applications will be accepted until the positions are filled. However, interviews will begin in mid-September 1985.

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

POSITIONS OPEN

DEPARTMENT OF PHARMACODYNAMICS **COLLEGE OF PHARMACY** **UNIVERSITY OF ILLINOIS AT CHICAGO**

Applications are invited for the position of **HEAD**, Department of Pharmacodynamics, College of Pharmacy, University of Illinois at Chicago. The effective date of the appointment is March 1986.

The qualifications of the individual should include a doctoral degree, demonstrated excellence in contemporary research, the ability to secure extramural funding, and to contribute to the evolution and advancement of pharmaceutical education.

Send applications to:

Dr. Michael Groves
College of Pharmacy
University of Illinois at Chicago
833 South Wood Street, Room 236
Chicago, Ill. 60612

Applications should be accompanied by a résumé and submitted no later than 31 September 1985. Salary is commensurate with qualifications.

The University of Illinois is an Equal Opportunity Employer and encourages applications from women and minorities.

MARINE SCIENTISTS. The University of Texas Marine Science Institute has openings for three, state-funded, non-tenure track **RESEARCH SCIENTISTS IN: benthic ecology/invertebrate zoology, zooplankton ecology, and fisheries biology/ichthyology.** Candidates must have Ph.D. degree in marine science and a record of research accomplishments. Postdoctoral experience is preferred. Successful applicants will be expected to obtain funding to develop an independent research program and to cooperate in development of multidisciplinary projects.

Send letter of application, statement of research interests, curriculum vitae, and names of three references before 1 November 1985 to: **Dr. Robert S. Jones, Director, Marine Science Institute, The University of Texas at Austin, Port Aransas, Texas 78373.**

The University of Texas at Austin is an Equal Opportunity/Affirmative Action Employer.

Ball State University, Muncie, Indiana. Position title: **MEDICAL PHYSIOLOGIST**, Indiana University School of Medicine, Muncie Center for Medical Education at Ball State University. Description: Applications are invited for a Ball State University tenure-track faculty position in the area of **medical physiology**. Applicants are expected to have postdoctoral experience and demonstrated research capability. The successful applicant will be expected to develop an active research program supported by outside funding. The position includes team-teaching medical physiology to first-year medical students. There is a possibility for a joint appointment in either the Ball State University Human Performance Laboratory or Department of Physiology and Health Science. Salary will be commensurate with experience. Review of applications will begin 1 August 1985. Send curriculum vitae, graduate school transcript(s), a brief summary of research experience, and names of three or more references to: **Dr. Douglas Triplett, Director, Center for Medical Education, Ball State University, Muncie Ind. 47306. Ball State University practices Equal Opportunity in Education and Employment.**

MEDICINAL CHEMIST

The University of Texas at Austin has an opening for a **FULL PROFESSOR OF MEDICINAL CHEMISTRY** (tenured) in the College of Pharmacy. Applicants should have an outstanding record in research and education and be eager to participate in the further development of an expanding research and graduate program in medicinal chemistry. Excellent facilities are available, including molecular graphics and access to high field NMR. We are particularly interested in applicants with well-funded programs in bioorganic chemistry in areas such as drug-receptor (DNA or membranes) interactions which utilize computer graphics and high field NMR. Opportunities exist at the university and state-wide level for collaborating research programs. Applicant should submit a résumé and the names and addresses of three references to:

Laurence H. Hurley, Ph.D.
Head, Medicinal Chemistry Division
College of Pharmacy
The University of Texas at Austin
Austin, Texas 78712-1074

The University of Texas is an Equal Opportunity Employer.

Drug Metabolism

The Drug Metabolism Department of SK&F Laboratories is seeking an outstanding scientist interested in designing and conducting studies to elucidate the disposition, metabolism, and pharmacokinetics of new drugs. The successful candidate must have:

- Ph.D. and 2-5 years of relevant experience. (postdoctoral and/or industrial)
- Experience studying the metabolism, disposition and pharmacokinetics of drugs and/or foreign chemicals.
- Experience in analytical techniques including (but not limited to) HPLC, GLC and radiochemical analysis.
- Proven scientific skills as evidenced by an outstanding publications record.
- Excellent interpersonal and communication skills.

Located near Valley Forge, PA the Department will be moving into a new state-of-the-art research facility minutes away from its present location. We offer an outstanding compensation, benefits, and relocation package as well as opportunities for personal and professional growth.

Please forward your resume with list of publications to George P. Kissell, Jr., Manager, Personnel Relations, SK&F Laboratories, 1598 Spring Garden Street, Philadelphia, PA 19101. We are an Equal Opportunity Employer, M/F/H/V.

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ASSOCIATE DIRECTOR Great Lakes and Marine Waters Center Institute of Science and Technology

Applications and nominations will be accepted until September 1, 1985 for the position of Associate Director, Great Lakes and Marine Waters Center, a unit of The University of Michigan's Institute of Science and Technology.

The Great Lakes and Marine Waters Center encompasses a broad range of aquatic programs including the Michigan Sea Grant College Program, an International Program, and the Great Lakes Research Division, and operates an 80-foot UNOLS research vessel. The Center is especially interested in developing and strengthening programs in microbiology, toxic substances, and remote sensing as related to oceanography.

A major responsibility of the person selected will be to serve as Director, Great Lakes Research Division, and to provide leadership and administration of a primary research staff of 20 scientists, 7 of whom hold academic appointments in different schools and colleges of the university.

Candidates should hold a Ph.D. in a freshwater or marine related area with outstanding accomplishments in research. The candidate will be selected on the basis of qualifications and potential to strengthen and expand the present strong research program. A tenured or tenured-track appointment with an appropriate academic department in the university is a prerequisite.

Please submit curriculum vitae and names of three persons who can be contacted for references to: **Chair, Associate Director Search Committee, Institute of Science and Technology, 2200 Bonisteel Boulevard, The University of Michigan, Ann Arbor, MI 48109.**



The University of Michigan

An Equal Opportunity, Affirmative Action Employer.

Postdoctoral Scientists

The MIT Spectroscopy Laboratory has openings for two postdoctoral scientists to pursue research in applications of lasers and laser spectroscopy to medicine. Research problems include the laser treatment of atherosclerosis and spectroscopic studies of biological tissue. Candidates should have a Ph.D. in either physics or chemistry or a related engineering field, extensive hands on experience in designing and building laser optical/spectroscopic systems, and experience and/or interest in biomedical research.

The research is being pursued in an interdisciplinary team. Candidates must be capable of leadership and of providing guidance to graduate and undergraduate students. Curriculum vitae and names of three references should be sent to Professor Michael S. Feld, Director, Spectroscopy Laboratory, c/o Personnel, E19-238, 77 Massachusetts Ave., Cambridge, MA 02139. Refer to Job #C85-152.

MIT is an equal opportunity/affirmative action employer

MIT

Microbiologists/ Molecular Biologists



What will you
discover
when you join Lederle?

We're putting research to work at American Cyanamid's Medical Research Division, Lederle Laboratories. We're discovering and developing new, unique products to prevent or treat major diseases. Our Fermentation Development Department has important work for individuals to develop or improve commercial processes primarily involving antibiotic-producing organisms.

Two opportunities exist for candidates with a Ph.D. in Microbiology/Molecular Biology to participate in studies relating to the biochemistry of antibiotic production as well as the application of gene-cloning techniques. Relevant postdoctoral experience is preferred. A strong background in microbial physiology as well as experience in recombinant DNA methodology is required.

We also seek a candidate with an M.S. in Microbiology/Molecular Biology and laboratory experience in one or more of the above areas.

At Lederle, you'll discover a stimulating, highly professional research environment in beautiful Rockland County, just 35 miles from New York City. And, we provide a highly competitive compensation and benefits package, including a 401K savings plan option. For immediate consideration, forward your resume and salary requirements, in confidence, to: Mrs. Nancy Levine, Professional Employment Coordinator, Lederle Laboratories, American Cyanamid Company, Medical Research Division, Pearl River, New York 10965. An Equal Opportunity Employer m/f



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POSITIONS OPEN

MOLECULAR BIOLOGIST The University of Texas System Cancer Center (UTSCC) Science Park-Research Division

Applications are invited for a faculty position (assistant or associate professor level) in a multidisciplinary research laboratory studying cellular and molecular mechanisms of carcinogenesis. Research programs at Science Park, located in Buescher State Park 40 miles east of Austin, include somatic cell genetics, DNA repair and mutagenesis, carcinogen metabolism and adduct formation, tumor promotion, virology, mechanisms of lymphomagenesis, normal and tumor cell differentiation, biochemical genetics and growth factors. Candidates would be expected to have or establish an independent research program. Preference will be given to individuals who have extensive expertise and commitment in the area of molecular biology. The Science Park provides competitive salary and benefits, a stimulating research environment, postdoctoral and graduate students, and opportunities for interaction with faculty at nearby institutions, including the University of Texas Health Science Center in Houston, University of Texas at Austin, and Texas A & M University. Interested applicants should send complete curriculum vitae, the names of three references, and a brief statement of research interests to: **Dr. Thomas J. Slaga, Director, UTSCC, Science Park-Research Division, P.O. Box 389, Smithville, Texas 78957; Telephone: 512-237-2403. An Equal Opportunity/Affirmative Action Employer.**

MOLECULAR EMBRYOLOGY OF MOUSE

Challenge to an exciting unknown field. **Postdoctoral and research associate** position is available for 3 years. Experience in cDNA cloning, blot hybridization, and in situ hybridization is desired. Knowledge of mammalian embryology is not essential. Please send curriculum vitae, bibliography, brief description of experience, and name of three references to: **Dr. Y. C. Hus, M.D., Professor, The Johns Hopkins University, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Maryland 21205.**

MOLECULAR NUTRITION JOHNS HOPKINS UNIVERSITY

Applications are invited for a tenure-track position at the assistant or associate professor level, starting 1 September 1986, in the Department of Biochemistry. Preference will be given to nutritional biochemists studying problems at the cellular or molecular level, or to biochemists or molecular biologists with research interests that are relevant to experimental nutrition. Areas of interest include, but are not limited to, effects of hormones or vitamins on regulation of gene expression, and metabolic control mechanisms. Candidates for assistant professor must have a Ph.D. in biochemistry, cell or molecular biology, experimental nutrition, or a related area and at least 2 years of postdoctoral experience and a record of significant publications. Candidates for associate professor must have an outstanding record of research. The successful candidate is expected to develop or maintain an independent research program and develop a teaching program in molecular aspects of nutrition. Applications, including curriculum vitae, a list of publications with reprints of selected papers, the names of three references, and a statement of research plans, should be sent to: **Dr. Lawrence Grossman, Chairman, Department of Biochemistry, The Johns Hopkins University School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Maryland 21205. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE position available immediately to work in thyroid hormone metabolism and mechanism of action in human and animal cells. Recent Ph.D. in cell biology, biochemistry, or molecular biology with knowledge of cell culture techniques. Send curriculum vitae to: **Michael M. Kaplan, M.D., Endocrine Division, Box 268, New England Medical Center Hospital, 171 Harrison Avenue, Boston, Mass. 02111. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately for a Ph.D. in chemistry or biochemistry to perform biochemical studies to elucidate the molecular mechanism and metabolic consequences of the interaction between the microsomal cytochrome P-450 and cytochrome b₅ electron transport chains. Send résumé and three letters of recommendation to: **Dr. L. Waskell (129), VA Medical Center, 4150 Clement Street, San Francisco, Calif. 94121.**

POSITIONS OPEN

NEUROANATOMY POSTDOCTORAL POSITIONS

Available both immediately and for July 1986. Positions are supported by an NINCDS Training Grant. Various aspects of the nervous system, peripheral and central, are being studied by the faculty involved. For further information, write to: **Dr. Alan Peters, Chairman and Professor, Department of Anatomy, Boston University School of Medicine, 80 East Concord Street, Boston, Mass. 02118. Equal Opportunity Employer, M/F.**

ORGANISMAL PHYSIOLOGIST

The Department of Biological Sciences at the State University of New York at Binghamton invites applications for a tenure-track position at the level of assistant professor, to begin 1 September 1986. The department also welcomes applications from distinguished investigators for a senior position. Applicants should have postdoctoral experience in environmental, neural, or endocrine physiology. The candidate will be expected to establish a vigorous research program and teach in the Ph.D. and undergraduate programs. Screening of applicants will begin 9 September 1985. Applicants should submit curriculum vitae, reprints, statement of research interests, and the names and addresses of three persons who can provide letters of reference to: **Chairman, Physiology Search Committee, University Center at Binghamton, State University of New York, Binghamton, New York 13901.**

State University of New York is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL IN NEUROBIOLOGY AND BEHAVIOR. Cornell University. Studies of neuroethology of species recognition in electric fish. Available immediately for 1.5 years (renewable). Experience needed: Ph.D. degree; single unit recording from peripheral or central nervous system; vertebrate neuroanatomy; knowledge of minicomputers. Applicants should send curriculum vitae, reprints, and two letters of recommendation to: **Professor Carl D. Hopkins, Section of Neurobiology and Behavior, Cornell University, Ithaca, New York 14853.**

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE positions immediately available. Project involves biochemical and molecular studies of cell cycle specific expression of glycolytic enzymes in mammalian cells. Experience with molecular biological and/or protein chemistry techniques required. Send curriculum vitae, names and telephone numbers of three references, and have one letter of recommendation sent to: **Dr. H. Mohrenweiser, 4708 Medical Science 2, Box 15, The University of Michigan, Ann Arbor, Mich. 48109.**

A Nondiscriminatory, Affirmative Action Employer.

POSTDOCTORAL FELLOW OR PROFESSIONAL RESEARCH ASSOCIATE

Applications are invited for a position as postdoctoral fellow or research associate to work on a study of the molecular mechanisms that control the expression of Gonadotropin releasing hormone.

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

Please send current curriculum vitae and two letters of recommendation to:

**Vikram Misra
Department of Veterinary Microbiology
W.C.V.M.
University of Saskatchewan
Saskatoon, Saskatchewan, Canada S7N 0W0
Telephone: 306-966-7218**

or
**Bruce Murphy
Department of Biology
University of Saskatchewan
Saskatoon, Saskatchewan, Canada S7N 0W0
Telephone: 306-966-4411**

POSTDOCTORAL POSITION IN MOLECULAR CELL BIOLOGY. Postdoctoral position available immediately to investigate function of gene products and post-translationally modified forms of the cytoskeletal proteins tubulin and actin. Experience in biochemistry or molecular biology preferred. Send curriculum vitae and names of three references to: **Dr. J. C. Bulinski, Department of Biology, University of California, Los Angeles, Calif. 90024.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for a Ph.D. in biochemistry, microbiology, or a related field. Research involves the biochemistry and regulation of sugar transport in the oral pathogen *Streptococcus mutans*. Salary commensurate with experience. Submit curriculum vitae and the names of three references to: **Dr. Gary R. Jacobson, Department of Biology, Boston University, 2 Cummings Street, Boston, Mass. 02215. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS IN PLANT MOLECULAR BIOLOGY

Two positions are available to study molecular biology of maize in an interdisciplinary project at the University of Minnesota. Research areas include transcriptional regulation of gene expression, especially related to rRNA, zein or aspartate family pathway genes, and mitochondrial gene organization and expression.

Applicants must have completed the requirements for a Ph.D. by the time of appointment, and should send a letter of intent, curriculum vitae, and statement of research experience and have three letters of recommendation sent to: **Dr. B. Gengenbach, Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, Minn. 55108, by 31 August 1985.**

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

POSTDOCTORAL POSITION available to study the electrophysiology of secretory cells of the intestinal immune system. We are interested in control mechanisms of stimulus secretion coupling. A background in electrophysiology and experience with the microelectrode technique are necessary. The stipend will be consistent with MRC guidelines and the position is available 15 September 1985. Please send curriculum vitae with references to: **Dr. J. D. Huizinga, Ph.D., Department of Neurosciences, Health Sciences Centre, Room 3N5C, McMaster University, Hamilton, Ontario, Canada L8N 3Z5; telephone: 416-525-9140, extension 2590.**

POSTDOCTORAL POSITION in pharmacology for study of the molecular biology of acquired resistance to anticancer agents. Studies will utilize techniques of recombinant DNA and will correlate genetic and phenotypic expressions of resistance in mammalian cells. Candidates with training in biochemistry, pharmacology, or cell biology will be considered preferentially. **Dr. DeWayne Roberts, St. Jude Children's Research Hospital, P.O. Box 318, Memphis, Tenn. 38101. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately for Ph.D. with experience desirable in either receptor biochemistry, protein purification, or hybridoma technology. Research involves purification of membrane receptors and associated effector proteins. Send curriculum vitae and names of three references to: **Dr. L. E. Cornett, Department of Physiology and Biophysics, Slot 505, University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, Ark. 72205. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS (TWO) are available immediately for studies in the following areas: monocyte cell biology; platelet physiology; fibronectin receptors; hemopoiesis; bone marrow stromal cells; and embryonic cell migrations. Successful candidates will have completed Ph.D. or M.D. degrees, have strong background in cell biology, immunology, biochemistry, or related disciplines and have extensive laboratory experience. Send curriculum vitae and references to: **Dr. Celso Bianco or Dr. Jay E. Valinsky, New York Blood Center, 310 East 67 Street, New York, N.Y. 10021. Equal Opportunity Employer.**

POSTDOCTORAL POSITION. NIH-sponsored, available immediately to study the function and biochemical properties of lymphocyte tyrosine protein kinases. Background in biochemistry, protein chemistry, or cell biology preferred. Send curriculum vitae and three letters of recommendation to: **John E. Casnellie, Ph.D., Department of Pharmacology, University of Rochester School of Medicine and Dentistry, Rochester, N.Y. 14642.**

TOMORROW BEGINS AT WITS TODAY

General Anatomy

As **Lecturer** in the Department of General Anatomy in the School of Dentistry you will be required to teach human anatomy and human biology to dental and science students and to engage actively in research. You should have a degree in dentistry, medicine or science, postgraduate experience being an added recommendation. Areas of research interest include developmental biology, human biology and comparative and forensic anatomy. Duties are to be assumed on 1 June 1986.

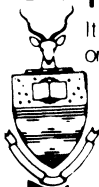
Salary: R16 257 - R27 648 per annum.

Benefits: pension ■ medical aid ■ annual bonus ■ remission of fees ■ generous leave ■ housing subsidy, travel, removal and settling-in allowances (if eligible).

For further information contact the Deputy Registrar (Academic Staffing)

Submit your application by 30 September 1985.

It is the policy of the University not to discriminate on the grounds of sex, race, colour or national origin.



UNIVERSITY OF THE WITWATERSRAND

1 Jan Smuts Avenue, Johannesburg 2001,
South Africa

MOLECULAR BIOLOGY OF ONCOGENES

IMMUNEX CORPORATION is a Seattle-based biotechnology corporation specializing in the commercial development of lymphokines and immune response modifiers. We wish to expand our group investigating the molecular biology of oncogenes and cloned lymphokine/lymphokine receptor genes. The projects are aimed at increasing our understanding of cell growth regulation in the lymphoid and hematopoietic systems, and require a collaborative approach in a stimulating multidisciplinary environment.

Two positions are available; one for a recent Ph.D. graduate; the other requiring post-doctoral experience. The company offers competitive salaries, an equity participation program and a full benefits package.

Application, including CV, list of publications and names and addresses of three references should be sent to the **Personnel Officer, Immunex Corporation, 51 University Street, Seattle, WA 98101.** Immunex Corporation is an equal opportunity employer.

IMMUNEX

Cell and Molecular Biology POSTDOCTORAL POSITIONS

Postdoctoral positions are available in the Cell Biology Group at the Worcester Foundation for Experimental Biology, supported by an NIH Training Grant and individual investigator awards. The faculty and their research interests are:

Earl Baril: Enzymology of eukaryotic DNA replication.

Edward Berger: Cell-cell interactions and differential gene expression in *Dictyostelium*.

William Crain: Actin gene expression in embryonic development.

Grant Fairbanks: Organization and function of erythrocyte and sperm plasma membrane.

Clare O'Connor: Protein modifications during gametogenesis; development of cell polarity.

Thoru Pederson: Nuclear ribonucleoproteins and messenger RNA processing.

Joel Richter: Transcriptional and translational regulation in *Xenopus* oocytes.

Harriet Robinson: Retroviruses, oncogenes, cell growth and differentiation.

Greenfield Sluder: Timing and molecular control of mitotic events during early development.

David Steffen: Murine leukemia virus gene expression and oncogenicity.

Richard Vallee: MAPs, monoclonal antibodies, mitosis, neuronal cytoskeleton.

Samuel Wadsworth: Structure and function of *Drosophila* oncogenes, growth factors and receptors.

George Witman: Generation and control of flagellar movement in *Chlamydomonas* and mammalian sperm.

David Wolf: Diffusion and control of membrane regionalization; sperm maturation and capacitation.

Paul Zamecnik: Synthesis of modified oligonucleotides for chemotherapy.

Carol Ziomek: Membrane structure and cell polarity in early mouse development.

The institute is founded on a basic research philosophy and fosters an open, collegial environment conducive to scientific interactions.

Send curriculum vitae and names of references to faculty member(s) of interest to: Cell Biology Group, Position ID #T2, C/O Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545, USA.

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER M/F/H



WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY

POSITIONS OPEN

POSTDOCTORAL POSITION—A funded postdoctoral position is available for work on the structure and assembly of bacteriophages. Send curriculum vitae and names of at least two references to: **Dr. Philip Serwer, Department of Biochemistry, The University of Texas Health Science Center, San Antonio, Texas 78284.**

POSTDOCTORAL POSITION available to study phospholipase A₂ enzymes involved in arachidonic acid release and platelet activating factor production in human neutrophils. Ph.D. or M.D. required, with training in biochemistry. Send curriculum vitae and three letters of recommendation to: **Dr. Christina Leslie and Dr. Peter Henson, Department of Pediatrics, National Jewish Hospital and Research Center/National Asthma Center, 3800 East Colfax Avenue, Denver, Colo. 80206. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION available on molecular biological research of anion metabolite transporters (phosphate, pyruvate, ADP/ATP) of the mammalian inner mitochondrial membrane. The research program encompasses, among other aspects, selection and sequencing of cDNA and genomic clones; 5' and 3' flanking regions of the genes will be characterized for control sequences. Minimum salary: \$17,000, plus fringe benefits. Send curriculum vitae and two references to: **Dr. Hartmut Wohlrab, Boston Biomedical Research Institute, 20 Stanford Street, Boston, Mass. 02114. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately in DNA repair: (i) mechanistic study of methylation-directed mismatch repair, and (ii) molecular biology of mutator genes. Experience in molecular biology and protein purification is desirable. Send curriculum vitae and three letters of references to: **A-Lien Lu Chang, Department of Biological Chemistry, University of Maryland School of Medicine, Baltimore, Maryland 21201. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE position for recent Ph.D. available after 1 January 1986. Studies on electrophysiology, pharmacology of Schwann cells and glia. Experience in small cell electrophysiology, ion-selective micro-electrodes, and nervous system ion homeostasis given preference. Salary: approximately \$18,000 per annum, renewable. Send curriculum vitae and names of three references to: **E. M. Lieberman, Department of Physiology, East Carolina University School of Medicine, Greenville, N.C. 27834-4354. Closing date for receipt of applications: 31 October 1985. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL TRAINING IN TOXICOLOGY

NIEHS-supported postdoctoral fellowships are available through the Environmental Health Sciences Center at Oregon State University (OSU). Trainees will engage in research with an emphasis on basic mechanisms for toxicity of environmental agents. Fellowships are available on a competitive basis to applicants (U.S. citizens and permanent residents only) with recent degrees in chemistry, biochemistry, pharmacology, and so forth.

To apply for a NIEHS Fellowship, send curriculum vitae, academic records, and three letters of reference to:

**Ian J. Tinsley, Ph.D.
Training Program Director
Department of Agricultural Chemistry
Oregon State University
Corvallis, Ore. 97331
Telephone: 503-754-3791**

Application closing date is 1 October 1985.

OSU is an Equal Opportunity/Affirmative Action Employer and complies with Section 504 of the Rehabilitation Act of 1973.

STREAM ECOLOGIST—Associate professor of fisheries (tenure-track) to lead established multidisciplinary aquatic research program. Requires Ph.D. in aquatic ecology, research experience in stream ecology, demonstrated team leadership, and ability to attract competitive research funding. Send letter, résumé, and names of three references by 15 September 1985 to: **Search Committee c/o James D. Hall, Department of Fisheries and Wildlife, Oregon State University, Corvallis, Ore. 97331-3803. Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to study T lymphocyte function in aging, and after bone marrow transplantation in mice and humans. Background in cellular and/or molecular immunology would be desirable. Please send curriculum vitae and three letters of recommendation to: **Dr. Richard A. Miller, Department of Pathology, Boston University School of Medicine, 80 East Concord Street, Boston, Mass. 02118. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION for recent Ph.D. interested in the biochemical pharmacology of antitumor agents. Areas of study include: (i) mechanisms of nucleoside transport in normal and neoplastic cells, (ii) modulation of antitumor drug activity by nucleoside transport inhibitors in vitro (cell culture) and in vivo, and (iii) effects of drug combinations on hematopoietic stem cells. Salary: \$20,000 to \$23,000, depending on qualifications. Send curriculum vitae, summary of research experience, and names of three references to: **Dr. Judith A. Belt, Division of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, P.O. Box 318, Memphis, Tenn. 38101. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to study membrane transport and metabolism during sepsis. Research will involve use of ⁴⁵Ca and fluorescent Ca indicators in skeletal muscle preparations. Applicants should have doctorate in physiology and interest in cellular metabolic aspects. Contact: **Dr. M. Sayeed, Department of Physiology, Loyola University Stritch School of Medicine, Maywood, Ill. 60153. Telephone: 312-531-3402. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately to participate in the study of basal ganglia chemistry, circuitry, physiology, and development. Excellent opportunities to collaborate with other laboratories. Ongoing projects include: chemical circuitry as related to limbic and motor functions, cell culture and receptor binding, behavior and neurophysiology of oculomotor function as related to the basal ganglia, and transmitter distribution in normal and pathological human material. Send curriculum vitae, research interests, and names and addresses of three references to: **S. N. Haber, Ph.D., Department of Anatomy, Box 603, University of Rochester Medical Center, Rochester, N.Y. 14642.**

POSTDOCTORAL RESEARCH POSITIONS available in the University of California, Los Angeles (UCLA), Department of Surgery, School of Medicine; Ph.D. or M.D. required. Studies in histocompatibility, transplantation, and cancer. Salary range: \$19,212 to \$21,864, commensurate with experience. Send curriculum vitae and résumé to: **Dr. Paul Terasaki, UCLA Tissue Typing Laboratory, Number 15-30 Rehabilitation Center, 1000 Veteran Avenue, Los Angeles, California 90024. UCLA is an Equal Opportunity/Affirmative Action Employer.**

The Space Physics Research Laboratory at the University of Michigan, seeks applicants for a **POSTDOCTORAL RESEARCH POSITION**. Experimental background is essential. The appointee will carry out research in photoacoustic spectroscopy. Background in this area is desirable. Familiarity with data analysis techniques is also an important consideration. Send résumé and names of three individuals familiar with your work to:

**Dr. Vincent J. Abreu
Space Physics Research Laboratory
2455 Hayward
Ann Arbor, Michigan 48109-2143
A Non-Discriminatory, Affirmative Action Employer**

RESEARCH ASSOCIATE

Postdoctoral position available immediately to study the regulation of opioid peptide gene expression in the adrenal medulla and other endocrine tissues. Familiarity with recombinant DNA techniques desirable, but not essential. Send curriculum vitae and names of three references to: **Daniel Kilpatrick, Ph.D., c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

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

POSITIONS OPEN

POSTDOCTORAL POSITION IN MARINE MICROBIAL ECOLOGY as part of a cooperative research program between the U.S. Environmental Protection Agency Environmental Research Laboratory, Gulf Breeze, Florida, and the University of Illinois College of Veterinary Medicine. Research will involve the use of recombinant DNA and comparative nucleic acid sequencing to characterize natural and microcosm benthic microbial communities. Prefer a background in microbial ecology, with some familiarity with molecular biological techniques. Available immediately with support for up to 2 years; salary: \$19,000. Closing date: December 1985. Send résumé and names of three references to: **Dr. David Stahl, College of Veterinary Medicine, 2001 South Lincoln Avenue, Urbana, Illinois 61801.**

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

POSTDOCTORAL POSITIONS (TWO). Available in September and December 1985 to study the molecular basis of action of insulin and related growth factors that activate tyrosine kinases/receptors. Individuals are sought with training in biochemistry or cell biology, with interests in either protein chemistry or the cell biology of intracellular vesicular traffic. Please send curriculum vitae and the names of three references to: **Dr. Paul F. Pilch, Department of Biochemistry, Boston University School of Medicine, 80 East Concord Street, Boston, Mass. 02118. Equal Opportunity Employer, M/F.**

POSTDOCTORAL RESEARCH ASSOCIATE for cellular immunologist interested in inflammatory cell interactions with intracellular parasites, or biochemist interested in the basic mechanisms of host cell attachment to and invasion by parasites. Send résumé and names of references to: **Dr. F. Kierszenbaum, Department of Microbiology, Michigan State University, East Lansing, Mich. 48824-1101. An Affirmative Action/Equal Opportunity Institution.**

POSTDOCTORAL RESEARCH ASSOCIATES, junior/senior levels, expected fall 1985. Molecular biology, protein chemistry, and immunology of Marek's disease herpesvirus. Junior position: Ph.D. (or M.D./D.V.M. with strong research background) in molecular biology and biochemistry (preferably recombinant DNA technology) and ideally some virology/immunology. Senior position: same, plus two years of postdoctoral experience. Send résumé to: **Dr. L. F. Velicer, Microbiology, Michigan State University, East Lansing, Mich. 48824-1101. Telephone: 517-355-6605. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE available immediately for studies of disordered fatty acid metabolism, including metabolite elucidation (Ge/MS) and synthesis, as well as animal model studies. Ph.D. in bio-organic chemistry, biochemistry, or other related areas. Send curriculum vitae and names of three references to: **Kou-Yi Tserny, Ph.D., or Charles L. Hoppel, M.D., Research Service, VA Medical Center, Cleveland, Ohio 44106. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION available immediately to participate in ongoing studies of the neurobiological role of taste in the control of salivary secretion. Background in neuroanatomical tracing or neurophysiological recording techniques desirable. Starting salary range between \$18,000 to \$20,000 per year, depending on experience. Send curriculum vitae and names of three references to: **Dr. Robert M. Bradley, Department of Oral Biology, School of Dentistry, University of Michigan, Ann Arbor, Michigan 48109. A nondiscriminatory, Affirmative Action Employer.**

The Space Physics Research Laboratory at the University of Michigan, seeks applicants for a **POSTDOCTORAL RESEARCH POSITION**. The appointee will carry out analysis of satellite data and modeling of the atmosphere. A strong background in spectroscopy and atmospheric physics is desirable. Experience and/or interest in numerical modelling is an important consideration. Send résumé and the names of three individuals familiar with your work to:

**Dr. Vincent J. Abreu
Space Physics Research Laboratory
2455 Hayward
Ann Arbor, Michigan 48109-2143
A NonDiscriminatory, Affirmative Action Employer**

SCIENTIFIC OPPORTUNITIES

Boehringer Mannheim is a rapidly growing leader in the field of Medical Diagnostics. This leadership has been attained through emphasis on quality and team effort, and it's **Boehringer Mannheim's** employees that are responsible for the growth and leadership.

Due to this growth, we are currently seeking qualified individuals for exceptional opportunities in the following areas:

IMMUNOCHEMIST

This position is an opportunity for an experienced immunochemist with a PhD in Biochemistry, Microbiology or Immunology and 3 or more years of industrial experience in immunoassay development. Responsibilities will include development of new immunoassay methods suitable for application to automated clinical chemistry analyzers.

PRINCIPAL SCIENTIST

This individual will be the resident expert on all U.S. dry chemistry products and barcode technology as well as acting as the technical liaison between Production, Q.C. and Marketing. Major responsibility will be the resolution of production problems on dry chemistry products. The qualified candidate will have a PhD in Chemistry or Biochemistry and 3-5 years experience with dry chemistry technology.

At **Boehringer Mannheim** we offer an exciting and challenging work environment as well as an excellent compensation and benefit program. If you meet the above requirements and would like to join an organization that is a leader in its field we invite you to send your resume with salary history to:

Boehringer Mannheim

P.O. Box 50100
9115 Hague Road
Indianapolis, IN 46250



Equal Opportunity Employer

The Food and Drug Administration's (FDA) Center for Food Safety and Applied Nutrition located in Washington, D.C. has a position available as the

Associate Director for Physical Sciences

This position is in the Senior Executive Service with a salary range from \$61,296 to \$68,700 annually.

The Associate Director is a key advisor to the Center Director and manages a scientific/professional staff engaged in evaluating food/color additive petitions, analyzing foods/drugs/cosmetics, conducting research on food/color technology matters, and developing methods on analyzing foods/color additives/cosmetics.

Applicants must have professional experience in managing broad scientific programs and directing research in food chemistry activities; ability to deal effectively with high level governmental officials, the scientific/academic communities, national/international organizations and others; and the ability to implement equal employment opportunity programs. Applicants should have a Ph.D. in chemistry, chemical engineering or related biological/physical science and a national/international reputation in chemical research.

Send curriculum vitae to James Keady, Division of Human Resources Management, FDA, HFA-408, Rm. 4B-17, 5600 Fishers Lane, Rockville, Maryland 20857.

*APPLICATIONS WILL BE ACCEPTED
UNTIL AUGUST 30, 1985.*

SECTION LEADER GC/HPLC/MS SPECIALIST

Wallace Laboratories, a division of Carter-Wallace Inc., has a challenging opening in the Department of Biochemistry for an experienced individual to become part of the scientific team in new drug development.

The person we seek will possess a Ph.D in Chemistry or Pharmaceutical Sciences with at least 3 years of post-doctoral experience in industry, government or academics with a **PROVEN RECORD** in biomedical application of HPLC, GC and MS. In addition, good interpersonal communications and supervisory skills are essential.

This new position includes responsibility for directing a team of scientists in development of GC and HPLC assay methods for new drugs and/or metabolites in biologic media and, in the immediate future, establishment of an MS capability to support drug disposition studies.

We offer a competitive salary and an attractive benefits package. Our company is located in the central New Jersey, Princeton area with easy access to New York and Philadelphia.

To apply, send your curriculum vitae, a brief description of your experience, and a list of publications to: Al Aronson, Employment Manager.

CARTER-WALLACE, Inc.

P.O. Box #1

Half Acre Road, Cranbury, NJ 08512

Equal Opportunity Employer M/F



POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITION available immediately for a minimum of 3 years to study cell surface phenotype, DNA content, and kinetic properties of lymphoma cells using the flow cytometer as the main analytical instrument. Independent research in related areas such as lymphoma growth regulation and differentiation, and anti-idiotypic antibody production will be encouraged. At least 2 years of experience in cell biology and/or cellular immunology is required. Stipend commensurate with experience. Please send curriculum vitae and names of references to: **Raul C. Braylan, M.D., Professor, Department of Pathology, Box J-275, JHMHC College of Medicine, University of Florida, Gainesville, Florida 32610.**

Harvard University invites inquiries from persons qualified for appointment to **FULL PROFESSORSHIP** in the area of **visual perception**, broadly construed to include individuals who may have collateral interests in psychobiology, psychophysics, or cognition. Candidates should indicate their interest by writing to: **S. H. White, Chairman, Department of Psychology and Social Relations, 33 Kirkland Street, Cambridge, Mass. 02138.** Curriculum vitae and the names of potential referees should be included. *Applications from women and members of minority groups are especially welcome.* The closing date for applying is 1 November 1985.

RESEARCH ASSISTANT, PROFESSOR OF IMMUNOBIOLOGY. The Departments of Microbiology/Immunology and Medicine, State University of New York (SUNY), invite applications for a non-tenure position available 1985. Applicants must have Ph.D., original research productivity, extramural support potential. Conduct research on cell biology, immunology and/or biochemistry of immunologically-mediated diseases using contemporary methodologies. Participate in graduate training programs. Competitive, 12-month salary based on experience. Apply with curriculum vitae, research interests, and three references to: **Dr. George G. Holz, Jr., Chairman, Department of Microbiology and Immunology, SUNY-Upstate Medical Center, Syracuse, N.Y. 13210.** *An Equal Opportunity/Affirmative Action Employer.*

MOLECULAR GENETICS. The Department of Animal Genetics at the University of Connecticut plans to fill two tenure-track positions within the next 12 months. Applications are invited from scientists trained in genetics and/or molecular biology. Our goal is to hire two persons engaged in research at the forefront of their disciplines who can interact with departmental and University faculty actively pursuing research on the regulation of gene expression. Successful candidates will contribute to the research, instruction and public service missions of a land-grant institution, with major emphasis demanded in research and graduate training. Preference will be given to applicants able to relate their research interests to problems of potential significance for animal agriculture; one position will be filled by a candidate whose research plans will benefit from departmental facilities for poultry mutants. Both positions will be filled no later than September 1986, but earlier starting dates are desirable. Rank and salary will be commensurate with experience and accomplishments. One appointment will be made at the associate professor level, one at the assistant professor level. The successful candidate for the assistant professorship will have completed two or more years of postdoctoral training in a productive research laboratory, have demonstrated potential for establishing a fundable independent research program, and be able to describe in detail plans for future research activities. The successful candidate for the associate professorship will have established a strong well funded research program at the forefront of his or her specific interest area. The two positions to be filled, and related positions in the department and university, are part of a long range plan to develop a program of excellence in molecular and applied genetics. This goal has been endorsed by the academic plan of the University, supported by the Molecular Genetics and Cell Biology Faculty, and encouraged by a major grant made by the Board of Higher Education under *Public Act Number 83-492; An Act Concerning the Development of High Technology Projects and Programs.* To apply, candidates must submit curriculum vitae, bibliography, statement of research background and interests, and three letters of reference to: **Louis J. Pierro, Head, Department of Animal Genetics, U-39, University of Connecticut, Storrs, Conn. 06268.** Screening begins 16 August 1985. (Search Number 5A99/5A100).

POSITIONS OPEN

RESEARCH INSTRUCTOR IN INTERNAL MEDICINE (CARDIOLOGY)

The Weinberger Laboratory for Cardiopulmonary Research, University of Texas Health Science Center at Dallas, has an immediate opening for a research instructor. The primary responsibility is to serve as the project manager of a NASA Space Shuttle experiment, including the development of instrumentation and procedures for use during Space Lab studies in human subjects. The successful candidate will have B.S. (engineering and/or computer science) and M.D. degrees, at least 1 year of clinical experience, and a minimum of 2 years of cardiovascular research training. Cardiac imaging, particularly echocardiography, is a desirable area of interest and expertise. Inquiries should be directed to: **C. Gunnar Blomqvist, M.D., Professor of Medicine and Physiology, University of Texas Health Science Center, Division of Cardiology, H8.122, 5323 Harry Hines Boulevard, Dallas, Texas 75235.**

Equal Opportunity Employer

SCIENTIST RECOVERY PROCESS DEVELOPMENT

Genentech, Inc., a leader in the field of biotechnology, has an opening for a scientist who will provide both technical leadership and active participation with co-workers engaged in research and development of processes suitable for the pilot scale isolation and purification of Genentech products. The successful candidate will possess the ability to supervise and collaborate productively with one to three co-workers, have current knowledge of biochemical engineering principles with emphasis on the extraction, isolation, and purification of proteins and other biologicals from microbial and tissue sources. Candidates should have a minimum of 2 years of postdoctoral experience or equivalent.

Genentech offers a competitive compensation and benefits package, combined with the opportunity to make a significant contribution to our organization. For consideration, please send resume to: **Human Resources Department Number EM, 460 Point San Bruno Boulevard, South San Francisco, Calif. 94080.** *An Equal Opportunity Employer.*

THE UNIVERSITY OF MELBOURNE LECTURER (CONTINUING OR LIMITED TENURE) in the DEPARTMENT OF PHARMACOLOGY

Applications are invited for the above position. The successful applicant will be expected to have a Ph.D. or equivalent qualification plus teaching and/or research experience in toxicology, but a well qualified pharmacologist who is prepared to embark on a primary commitment to toxicology could be considered. The appointee will be expected to carry out research, teach and otherwise practice as a toxicologist, but will also teach in other selected areas of pharmacology to medical, dental, and science undergraduates.

Further enquiries may be directed to: **Professor M. J. Rand, telephone: (03) 344 5673.**

The commencement date for this position is in the period November 1985 to February 1986.

Further printed information regarding details of application procedure and conditions of appointment is available from the **Appointments Officer (Academic).**

Applications, in duplicate, including names and addresses of at least three referees and quoting position number 534 0020, should be addressed to: **The Staff Officer, University of Melbourne, Parkville, Victoria 3052, Australia,** and close on 30 September 1985.

Equal Opportunity in Employment is the policy of the University of Melbourne. Selection is based on merit and all applications will be assessed regardless of sex, race, ethnicity, or disability.

Applications from both men and women are invited for all vacancies.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE to participate in a joint research program between the laboratories of Carlos Gitler at the Department of Membrane Research, Weizmann Institute, Israel, and Leslie Loew at the University of Connecticut Health Center. The research aims to define the cytotoxic action of *Entamoeba histolytica* and applicants should have a background in membrane biochemistry or biophysics. The successful applicant should anticipate one extended visit to Israel with travel expenses to be provided through the program. A salary of \$19,000 to \$21,000 per year will be offered, depending on experience. The position is open as of 1 September, but starting dates up to January 1986 will be acceptable. Send curriculum vitae and at least two letters of reference to: **Dr. Leslie M. Loew, Department of Physiology, University of Connecticut Health Center, Farmington, Connecticut 06032.**

An Affirmative Action/Equal Opportunity Employer, M/W/H

Position: PROFESSOR AND HEAD, PEDIATRICS.

Responsibilities to be fulfilled: Direct the education, research, training, and clinical programs of the Department of Pediatrics in the College of Medicine at the University of Iowa and the University Hospital and Clinics of the University of Iowa.

Qualifications desired: M.D. degree, or equivalent, and a demonstrated scholar in pediatrics.

Salary: Appropriate for qualifications and responsibilities for a professor and head of pediatrics. Excellent fringe benefits.

Employer: *The University of Iowa, Iowa City, Iowa 52242, is an Affirmative Action/Equal Opportunity Employer.*

Application: Interested persons are invited to direct inquiries and submit curriculum vitae to:

**Dr. Francois M. Abboud
Chairman, Pediatrics Search Committee
Professor and Head, Department of Internal Medicine
College of Medicine
The University of Iowa
Iowa City, Iowa 52242**

Immunodiagnosics

Cambridge BioScience Corporation, a biotechnology company specializing in infectious disease diagnostics offers exciting positions in its Hopkinton, Massachusetts laboratories. We are seeking advanced level scientists as well as research associates. Industrial experience helpful but not required.

Molecular Biology

- All levels with extensive background in recombinant-DNA, cloning and expression, minimum of 2 years academic or industrial experience.

Virology/Immunology

- Ph.D. level with experience in clinical virology
- Experience in hybridoma development
- Working knowledge of molecular virology
- Research associate openings (BS, MS)

Cambridge BioScience offers a unique and stimulating environment and close working associations with academic institutions.

Qualified applicants should send resume and salary requirements to: Cambridge BioScience Corporation, Personnel Department, 35 South Street, Hopkinton, MA 01748.



Laser Physicist

The successful candidate will join a new, state-of-the-art electro-optics laboratory and participate in the development of basic and applied research programs in laser applications for ophthalmology. Current areas of research encompass the use of excimer lasers for materials processing and tissue removal, as well as studies of short pulse effects including optical breakdowns and selective targeting of tissue, using tunable laser sources.

This is an excellent opportunity for an individual interested in becoming an independent investigator in this area and offers the possibility of Harvard Medical School academic appointment. Qualified candidates will have a minimum of 3 years' experience; experience with short laser pulse effects and some biologic background is desirable. A Ph.D. in Physics, Electrical Engineering or a related field required.

Interested candidates, please send resumes to Pat Aylward. Only candidates selected for interview will receive a response.



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

**Mass.
Eye & Ear**
Infirmary
An equal opportunity employer

Postdoctoral Research CELL BIOLOGY/ BIOCHEMISTRY

Cetus Corporation seeks a recent Ph.D. graduate to take part in the development of human proteins for therapeutic use. This is a two year appointment with opportunity for a subsequent permanent position. This individual will be expected to work independently studying the mechanism of action of biologic response modifiers and cellular resistance to these factors. A Ph.D. in Biochemistry, Cell Biology or Immunology with demonstrated scientific creativity is required.

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DIRECTOR, Institute For Social Research

During 1986, F. Thomas Juster will come to the end of his second term as Director of the Institute for Social Research. A search committee has been established for this position and is now accepting nominations and applications. Expected qualifications include national distinction in scholarship and social research, substantial administrative experience, and a demonstrated commitment to the values of interdisciplinary university-based research and affirmative action.

Resumes and letters of nomination or application should be sent to: **Helene J. Hitchcock at the Institute for Social Research, Post Office Box 1248, Ann Arbor, Michigan 48106. Review of applications will begin on September 15.**



The University of Michigan

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Pathologist Experimental Pathology

The Department of Experimental Pathology, Smith Kline & French Laboratories, located in suburban Philadelphia, Pennsylvania, is seeking an experienced Veterinary Pathologist who will be responsible for the investigation of pathological changes arising in drug toxicity studies with special emphasis on elucidating pathogenetic mechanisms. The position offers significant opportunity for multidisciplinary collaboration in drug discovery and development.

Candidates are required to have:

- a D.V.M. with a Ph.D. or equivalent in Pathology.
- a proven record of scientific accomplishment as evidenced by significant publication record.
- ACVP eligibility/certification.
- experience in diagnostic and/or laboratory animal pathology.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your CV and names of three references to: Mr. Walter B. Flagg, Senior Employment Consultant, SmithKline Beckman Corporation, 1558 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

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POSITIONS OPEN

POSTDOCTORAL—NITROGEN FIXATION to study the physiology and/or biochemistry of hemoglobins in the nodules of actinorhizal plants. Send résumé, transcripts, references (telephone numbers), and statement of interests to: **J. D. Tjepkema, Department of Botany and Plant Pathology, University of Maine, Orono, Maine 04469. Telephone: 207-581-2993. Deadline: 1 September 1985 or until filled. The University of Maine is an Affirmative Action/Equal Opportunity Employer.**

TOXICOLOGIST

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

The candidate must possess a doctorate degree and should have an expressed interest and a strong background in toxicology with emphasis on reproduction/teratology or carcinogenesis. The candidate will participate and gain experience in broad spectrum in vivo toxicity testing and evaluation. Candidates with a background in experimental pathology will also be considered.

Permanent U.S. residency or U.S. citizenship required. Salary commensurate with qualifications and experience. Please submit résumés, including salary history, to: **L. Amft, Professional Staffing, Department S22, IIT Research Institute, 10 West 35 Street, Chicago, Ill. 60616. Equal Opportunity/Affirmative Action Employer, M/F/V/H.**

VETERINARY PATHOLOGIST

The College of Veterinary Medicine, University of Minnesota, invites applications for a tenure-track, faculty position at the assistant or associate professor level. Qualifications include a D.V.M. or equivalent degree from a foreign veterinary institution and a Ph.D. A minimum of 1 year of experience in teaching and research is required at the time of appointment for the rank of assistant professor. At least 3 years of teaching experience and proven success in independent research is required for the rank of associate professor. ACVP Board-certification and eligibility for Minnesota licensure are highly desirable. Responsibilities are to develop a funded research program in pathology using contemporary methodology, participate in investigative or diagnostic immunopathology, and teach anatomic pathology in both didactic and applied settings to professional (D.V.M.) and graduate students. Advising at the graduate student level is expected. Opportunities exist for interaction and collaborative research with faculty in basic and clinical disciplines within the Colleges of Veterinary Medicine, Agriculture, Biological Sciences, and the Health Sciences. Applicants should submit letter of application, description of research and academic interests, curriculum vitae, and names of three references by 1 October 1985 to: **Dr. David Hayden, Chair, Pathology Search Committee, Department of Veterinary Pathobiology, College of Veterinary Medicine (G), University of Minnesota, 1971 Commonwealth Avenue, St. Paul, Minn. 55108. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.**

VIROLOGY PREDOCTORAL AND POSTDOCTORAL POSITIONS

The Department of Microbiology and Immunology, University of California, Los Angeles (UCLA), School of Medicine, invites applications for training positions in virology. Research programs and faculty include the cellular and molecular basis of latency and pathogenesis of herpes simplex viruses (Dr. Jack G. Stevens), molecular biology of influenza viruses (Dr. Debi P. Nayak), transformation by papilloma viruses (Dr. Felix Wettstein), persistence of lymphocytic choriomeningitis viruses (Dr. Rafi Ahmed), molecular biology of picornaviruses (Dr. Asim Dasgupta), and molecular basis for transcriptional activation of herpesvirus genes (Dr. Lawrence T. Feldman). Stipends available. For predoctoral training leading to the Ph.D. degree, contact: **Dr. Dexter Howard**, and for postdoctoral positions, contact: **Dr. Debi Nayak, Department of Microbiology and Immunology, UCLA School of Medicine, Los Angeles, Calif. 90024. An Equal Opportunity/Affirmative Action Employer.**

REQUESTS FOR PROPOSALS

DIAGNOSTIC METHODS AND THERAPIES FOR LOW MOLECULAR WEIGHT TOXINS

As part of the program for Medical Defense Against Biological Warfare, the U.S. Army has a requirement for development of diagnostic methods and therapy for exposure to low molecular weight toxins. Primary interest is in the production of 100-milligram to 10-gram quantities of toxins, to be of 95 to 99-plus percent purity without loss of potency, which are needed for various studies, production of immunoassay reagents, development of in vitro detection methods and therapeutic modalities, and therapy for toxins with emphasis on antagonists to sodium channel effectors and development of antidotes that may be more broadly effective against multiple toxins. Programs for in vivo screening of potential therapeutic agents for toxicity and efficacy up to, and including preclinical trials, in vitro testing of potential therapeutic agents currently approved for human use, as well as development of new drugs. Toxins of interest include the trichothecene mycotoxins, blue-green algal toxins, and marine toxins. Request for Proposal Number DAMD17-85-R-0121 will be issued on or about 2 August 1985. Address written requests for this proposal to: **U.S. Army Medical Research Acquisition Activity, SGRD-RMA-RC/Kathleen A. Hargett, Fort Detrick, Frederick, Md. 21701-5014.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN PAIN RESEARCH

One or 2 years beginning immediately at the University of California, San Francisco, in the Departments of Pharmacology, Anatomy, Physiology. Applicants must have completed a Ph.D. or M.D., D.D.S., D.V.M., with at least 1 year of relevant research. Contact: **Dr. Howard L. Fields, M-794, Department of Neurology, University of California, San Francisco, Calif. 94143. These NIH fellowships are limited to citizens or permanent residents of the United States. The University of California is an Equal Opportunity Employer.**

JOAN ROBERTS TAYLOR GUILD FELLOWSHIP AT THE FRED HUTCHINSON CANCER RESEARCH CENTER

The Fred Hutchinson Cancer Research Center announces the availability of a 2-year Joan Roberts Taylor Guild Fellowship for a biological scientist who wishes to carry out an independent project of his or her own design in the Division of Basic Sciences at the Center.

Fellowship support includes stipend, laboratory space, equipment, and collaboration as needed from appropriate faculty member(s) of the division. Applicants will be selected on the basis of their record of achievement during graduate or postdoctoral training, letters of recommendation from mentors, and the work they would propose to carry out during the fellowship. Concise applications containing these materials should be sent to:

**The Fellowship Selection Committee
Division of Basic Sciences
Fred Hutchinson Cancer Research Center
1124 Columbia Street
Seattle, Washington 98104**

POSTDOCTORAL FELLOWSHIP IN MOLECULAR NEUROBIOLOGY

**Friedrich Miescher-Institut
Basel, Switzerland**

Applications are invited for an internally funded fellowship, of 3 years' maximum duration, to join an established team working on the expression of neuron-specific proteins in developing brain using recombinant DNA techniques. A good training and demonstrated ability in molecular biology are essential. The Institute provides outstanding facilities in a purely research environment. Inquiries should be addressed to: **Dr. A. Matus, Friedrich Miescher-Institut, P.O. Box 2543, CH-4002 Basel, Switzerland.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP

A well-funded and on-going multidisciplinary malaria vaccine development program has a position available immediately for a postdoctoral fellow. The successful applicant will work in the area of affinity purification and polypeptide sequencing of *P. falciparum* antigens. He/she should possess a Ph.D. degree in biochemistry or microbiology. Expertise in antibody affinity chromatography, P.A.G.E./Western blotting and/or polypeptide sequencing is highly desirable. Salary will range from \$17,000 to \$20,000 per year, depending upon qualifications and experience. Contact:

**Dr. Theodore J. Green
Department of Veterinary Microbiology
University of Missouri-Columbia
Columbia, Mo. 65211**

POSTDOCTORAL FELLOWSHIP available immediately, emphasis on research in immunology of fungal diseases in murine models; diagnostic training in medical mycology available; stipends as stipulated by NIH, as is requirement for U.S. citizenship or permanent resident status. For further details, write: **Dr. Judith Damer, Tulane Medical School, Department of Microbiology, 1430 Tulane Avenue, New Orleans, La. 70112.**

FELLOWSHIPS

Research Training in Experimental Hematology

Predocutorial and postdoctoral (Ph.D., M.D., or equivalent) fellowships, supported by a NIH-Heart, Lung, and Blood Institute Training Grant, are currently available. The training program operates within the Departments of Physiology, Biochemistry, Biological Sciences, Pediatrics and Surgery, and offers comprehensive training in the following areas: (i) platelets and megakaryocytes; (ii) membranes and transport systems; (iii) protein structure and function; (iv) blood coagulation and enzymology; (v) clinical correlations in hemostasis and hematology; (vi) transfusion medicine.

Research experiences are enriched by advanced graduate courses and seminars within the programs of the Detroit Medical Centers.

Send curriculum vitae and letters of inquiry to:

**Marion I. Barnhart, Ph.D.
Program Director
Department of Physiology
Wayne State University
School of Medicine
Detroit, Michigan 48201**

SYMPOSIUM

INTERNATIONAL SYMPOSIUM

**The Genetics of Development—29 September through 3 October 1985
Delawana Inn, Honey Harbor, Canada**

Participants: F. Alt, S. Benzer, A. Bernstein, M. Bishop, M. Breitbart, C. T. Caskey, M. Cohn, G. Dixon, H. Eisen, M. Evans, G. Fink, W. J. Gehring, A. Graham, I. Herskowitz, V. Ling, G. M. Rubin, F. Ruddle, L. Siminovitch, G. Stark, K. Tatchell, K. R. Yamamoto.

The Delawana Inn is a convention centre on Georgian Bay (Lake Huron) which is 90 miles north of Toronto. Transportation to and from Toronto will be provided for all participants. Space is available for additional participants to make poster presentations at the meeting. Send abstract (150 words in 7 inches wide x 5 inches long space) and registration fee to the address below. The registration fee is U.S.\$150 (C\$200) for senior scientists and U.S.\$100 (C\$130) for students and postdoctoral fellows. Deadline: 1 September 1985. Address for registration and information: **Stellis Robinson, 500 Sherbourne Street, Toronto, Ontario, Canada M4X 1K9; telephone: 416-924-0671, extension 5125.**

MARKETPLACE

NEWAT '85

NEWAT data base now available on 5 1/4" floppy disks for IBM PC's and look-alikes. More than 1200 amino acid sequences with literature citations. Six-disk kit includes programs for entering data, searching and aligning. \$250. Limited supply. **Telephone: 619-453-2467 or NEWAT, P.O. Box 12822, La Jolla, Calif. 92037.**



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Mechanical Engineer who knows—Hydrodynamics (Classical and Turbulence)

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